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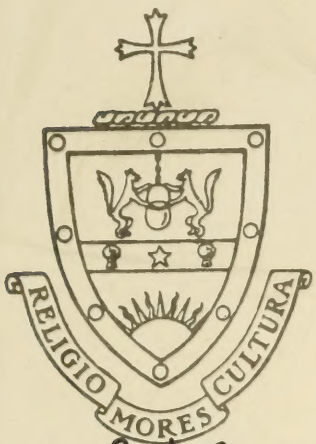

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REPORTS

OF THE

INSPECTORS OF COAL MINES

OF PENNSYLVANIA.

1896.

With a summary of coal production, etc., prepared by the Department of Internal Affairs.

CLARENCE M. BUSCH,
STATE PRINTER OF PENNSYLVANIA.
1897.

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REPORTS

OF THE

INSPECTORS OF MINES.

COMMUNICATION.

Department of Internal Affairs,
Harrisburg, May 15, 1897.

To His Excellency, Daniel H. Hastings, Governor of Pennsylvania:

Sir: In compliance with the requirements of the Act of June 2d, 1891, and that of May 15, 1893, relative to the Mine Inspectors' Reports of the Anthracite and Bituminous coal regions, I have the honor to present to you for transmission to the General Assembly the reports of the Inspectors of this Commonwealth for the year 1896.

Very respectfully,

JAMES W. LATTA,
Secretary of Internal Affairs.

INTRODUCTION

TO

MINE INSPECTORS' REPORT.

In submitting the annual report for 1895, attention was called to the necessity of additional legislation with reference to State supervision of Mine Inspectors, with a view of securing uniformity of action and regulation in the discharge of the important duties which are by law imposed upon the Inspectors. Attention was also called to the fact that while all the Mine Inspectors of the State were required by law to make annual reports to the Secretary of Internal Affairs, no authority was given the Secretary to exercise supervision over them. The necessity for legislation in the direction indicated was shown to be important and almost imperative, for although in the last two decades much has been done in the way of legislation for the protection of life and limb of persons employed in and about the mines of the State, yet the results as to accidents have not been such as to reflect credit upon those who have had to execute the laws. It is possible that no criticism ought to be made at this time, and it is not the purpose to make any, for the department has no knowledge that any of the Inspectors have neglected their duty. Indeed, so far as information has been received here, the evidence indicates that the Inspectors have been faithful in the discharge of their duties. The comment, therefore, that may be made at this time is that notwithstanding the great amount of legislation which has found its way on to the statute books, and the great expense incurred on the part of the Commonwealth to maintain supervision of the mining industry and in executing the laws, the stubborn fact remains that there is no perceptible reduction of casualties, fatal and non-fatal, among the persons employed in and about the mines of the Commonwealth. It would probably require investigation by experienced miners, engineers or operators to determine what more can be done to protect miners from accident. There is no claim here that either the Secretary of Internal

Affairs or any of his employes is sufficiently versed in the mining business to express an opinion as to what should be done. The facts as disclosed by the reports from the different mining districts furnish the data upon which these comments are made. The increase in number of accidents is due to causes which it is not our purpose to discuss. Nor is it assumed that the volume of laws that have been passed with reference to this industry has been the cause in any degree of the increase. As before suggested, so far as is known here, increase in number of accidents does not result from a failure to properly and faithfully execute the laws. If there is a lack of fidelity on the part of any officials in the matter of the execution of the laws, no information to that effect has reached this department. It is probable that in the anthracite region, at least, some of the accidents may have resulted from improper care of the mines from which the coal had long ago been taken and not from the methods adopted in the mines that are now being worked. Whatever the causes may be that lead to the great destruction of life and the maiming of miners, it is apparent that the State cannot escape responsibility, unless closer supervision is given over the Mine Inspectors, so that some State official may have absolute knowledge that there is a faithful discharge of the duties imposed upon them. Such supervision as suggested in the report of 1895 can be had by the establishment of a Bureau in the Department of Internal Affairs, with a Chief who has the qualifications to properly supervise the work of the Bureau with reference to its relations to the Mine Inspectors in both the anthracite and bituminous districts. Feeling to some extent that there was a responsibility resting upon the department to lead the way in the legislation suggested, a bill was prepared and submitted to the Legislature for its consideration. What action will be taken upon it, whether it shall be defeated or not, or whether it shall be amended, is, of course, a matter for the law-making power of the State to determine. It is, however, suggested as the most conservative and economical way of solving the problem which the State, it seems, ought to consider. The bill that has been prepared and submitted reads as follows:

Proposed act establishing a Bureau of Mines in the Department of Internal Affairs of Pennsylvania; defining its purposes and authority; providing for the appointment of a chief of said Bureau and assistants, and fixing their salaries and expenses.

Section 1. Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same, That there is hereby established in the Department of Internal Affairs of Pennsylvania a bureau to be known as the bureau of mines, which shall be charged with a supervision of the execution of the mining

laws of this Commonwealth and the care and publication of the annual reports of the Inspectors of coal mines.

Section 2. The chief officer of said bureau shall be denominated chief of the bureau of mines and shall be appointed by the Governor, upon the recommendation of the Secretary of Internal Affairs, within sixty days after the final passage of this act, and every four years thereafter, who shall be commissioned by the Governor to serve for a term of four years from the date of his appointment and until his successor is duly qualified, and shall receive an annual salary of three thousand dollars and traveling expenses; and in case of a vacancy in the office of chief of said bureau by reason of death, resignation or otherwise, the Governor shall appoint, on recommendation of the Secretary of Internal Affairs, a qualified person to fill such vacancy for the unexpired balance of the term.

Section 3. The chief of the bureau of mines shall be a competent mining engineer, having at least ten years' practical experience in the working and ventilation of coal mines of this State and a practical knowledge of all noxious and dangerous gases found in such mines; or other person who shall be fully qualified by scientific knowledge and practical experience to perform the duties of the office who shall have passed the examination required by the mining laws for applicants for the position of mine Inspectors, and shall have been recommended to the Governor as qualified to fill the office of mine Inspector by some of the examining boards, duly appointed for that purpose. The said chief of the bureau of mines, so appointed, shall, before entering upon the duties of his office, take and subscribe to the oath of office prescribed by the Constitution, the same to be filed in the office of the Secretary of the Commonwealth, and give to the Commonwealth a bond in the penal sum of ten thousand dollars, with surety, to be approved by the Governor and Secretary of Internal Affairs, conditioned for the faithful discharge of the duties of his office.

Section 4. It shall be the duty of the chief of the bureau of mines to devote the whole of his time to the duties of his office and to see that the mining laws of this State are faithfully executed, and for this purpose he is hereby invested with the same power and authority as the mine Inspectors to enter, inspect and examine any mine or colliery within the State and the works and machinery connected therewith, and to give such aid and advice to the mine Inspectors from time to time as he may deem best calculated to protect the health and promote the safety of all persons employed in and about the mines, and should he receive information by petition, signed by ten or more miners or operators, setting forth that any of the mine Inspectors are neglectful of their duty or are incompetent to perform the duties of their office or are guilty of malfeasance in office, he

shall at once investigate the matter, and if he shall be satisfied that the charge or charges are well founded he shall then petition the court of common pleas or the judge in chambers in any county within or partly within the inspection district of the said mine Inspector, which court, upon receipt of said petition and a report of the character of the charges and testimony produced, shall at once issue a citation in the name of the Commonwealth to the said Inspector to appear on not less than fifteen days' notice on a fixed day before said court at which time the court shall proceed to inquire into the allegations of the petitioners, and may require the attendance of such witnesses on subpoena issued and served by the proper officer or officers as the judge of the court and the chief of the said bureau may deem necessary in the case; the Inspector under investigation shall also have similar power and authority to compel the attendance of witnesses in his behalf. If the court shall find by said investigation that the said mine Inspector is guilty of neglecting his official duties or is incompetent to perform the duties of his office or is guilty of malfeasance in office the said court shall certify the same to the Governor, who shall declare the office vacant and shall proceed to supply the vacancy as provided for by the mining laws of the State. The cost of said investigation shall, if the charges are sustained, be imposed upon the mine Inspector, but if the charges are not sustained the cost shall be paid out of the State Treasury upon voucher or vouchers duly certified as to correctness by the judge or proper officer of the court where such proceedings are held, provided, that if the court shall be satisfied that there is no foundation for the complaint or that the same is made with malicious intent then the court may at its discretion impose the whole or any portion of the costs upon the said petitioners. To enable the said chief of the bureau of mines to conduct more effectually his examinations and investigations of the charges and complaints which may be made by petitioners against any of the mine Inspectors, as herein provided, he shall have power to administer oaths and take affidavits and depositions in form and manner provided by law.

Section 5. It shall be the duty of the Chief of the Bureau of Mines to take charge of and preserve in his office the annual reports of the mining inspectors and transmit a copy of them, together with such statistical data compiled therefrom, and other matter relating to the work of the bureau as may be of public interest, properly addressed to the Secretary of Internal Affairs for transmission to the Governor and the General Assembly of this Commonwealth on or before the fifteenth day of May in each year. It shall also be the duty of the Chief of the Bureau of Mines to see that said reports, or a copy of them, are placed in the hands of the Public Printer for publication on or before the first day of June in each year, the same to

be published under direction of the Secretary of Internal Affairs as other reports of his Department are now required by law to be published; and in order that the chief of said bureau may be able to prepare, compile and transmit his annual report to the Secretary of Internal Affairs within the time herein specified, the mine Inspectors are hereby required to deliver their annual reports to the Secretary of Internal Affairs on or before the fifteenth day of March in each year. In addition to the annual reports herein required of the mine Inspectors the said mine Inspectors shall furnish to the Chief of the Bureau of Mines such special reports or information on any subjects regarding mine accidents or other matters pertaining to mining interests or the safety of persons employed in mines as he, at any time, may require or may deem necessary in the proper and lawful discharge of his official duties. The Chief of the Bureau of Mines shall, also, establish, as far as may be practicable, a uniform style and size of blanks for the annual reports of the mine Inspectors and prescribe the form and character of subject matter to be embraced in the text and the tabulated statements of their annual reports. The Chief of the Bureau of Mines is hereby authorized to make such examinations and investigations as may enable him to report upon the various systems of coal mining practiced in the State, method of mining, ventilation, machinery employed, structure and character of the several coal seams operated, and of the associated strata, the circumstances and responsibility for mine accidents, economy of coal production, coal waste, area and exhaustion of coal territory, and such other matters as may pertain to the general welfare of coal miners and others connected with coal mining and the interests of coal mine owners and operators in this Commonwealth.

Section 6. The Chief of the Bureau of Mines shall keep in his office a journal or record of all examinations made and work done under his administration and copies of all official communications, and is hereby authorized to procure such books, instruments and chemical or other tests as may be found necessary to the proper discharge of his duties, under this act, at the expense of the State. All instruments, plans, books and records pertaining to the office shall be the property of the State and shall be delivered to his successor in office.

Section 7. The Chief of the Bureau of Mines shall at all times be accountable to the Secretary of Internal Affairs for the faithful discharge of the duties imposed upon him by law, and the administration of his office, and the rules and regulations pertaining to said bureau shall be subject to the approval of the Secretary of Internal Affairs, who is hereby empowered to appoint an assistant to the Chief of the Bureau at a salary of eighteen hundred dollars per an-

num, and a skilled stenographer and typewriter at a salary of twelve hundred dollars per annum, and provided further, that the salaries of the Chief of the Bureau of Mines, his assistant and the stenographer and typewriter shall be paid out of the State Treasury in the manner as other employes of the Department of Internal Affairs are now paid.

Section 8. No person who is acting as a land agent or as a manager, viewer or agent of any mine or colliery, or who is interested in operating any mine or colliery shall at the same time serve as Chief of the Bureau of Mines under the provisions of this act.

Section 9. That the operator or superintendent of each and every coal mine, subject to inspection under the mining laws of the State, shall, within six months after the final passage and approval of this act, deposit in the Bureau of Mines an accurate map or plan of such coal mine, which may be on tracing muslin or sun print drawn to a scale of not less than two hundred feet to an inch, which map or plan shall show the actual location of all openings, excavations, shafts, tunnels, slopes, planes, main headings, cross headings and rooms or working places in each strata operated, pumps, fans, or other ventilating apparatus, the entire course and direction of air currents, the relation and proximity of the workings of such coal mines to all other adjoining mines or coal lands, and the relative elevation of all tunnels and headings and of the face of working places near to or approaching boundary lines or adjacent mines, and on or before the close of each calendar year transmit to the Chief of the Bureau of Mines a supplemental map or plan showing all excavations, changes and additions made in such mine during the year, drawn to the scale as the first mentioned map or plan. All such maps or plans to be, and remain, in the Bureau of Mines as a part of the records of that office.

Section 10. All acts or parts of acts inconsistent with this act be and the same are hereby repealed.

The plan suggested is much more economical for the State than the establishment of a separate department, and if any good can come from legislation and State supervision, it is believed that it will result from the enacting of this bill into a law. It will do no harm, at least, to make the trial, and if it shall result in greater protection to the people who work beneath the surface of the earth in the hazardous employment of mining coal, it will have accomplished much. To establish a separate department to be known as the Department of Mining with a State official at its head and a number of assistants and clerks, would at this time be imposing a greater burden upon the State than it ought to bear. But independent of this question, the Constitutional Convention evidently intended that all departments or bureaus created having reference to the material

interests of the State and over which the State should exercise supervision, should be under the control of the Secretary of Internal Affairs. This idea is not only disclosed by the Constitution, but by the Act of 1871, which put many of its provisions in force.

PUBLICATION OF MINING LAWS.

The Legislature during the session of 1895, by concurrent resolution, authorized the Secretary of Internal Affairs to publish with the annual report of the mine Inspectors, the laws of the Commonwealth with reference to mining. Pursuant to this action, the mining laws have been compiled and are published with this report for the information of the public. These laws have also been printed in pamphlet form for such distribution as may be desired.

MINING STATISTICS.

Production in the Anthracite Region.

During the year 1895 there were produced in the anthracite region 50,847,104 tons of coal. For the year 1896 the production was 48,074,330 tons; a decrease of 2,772,774. It will be remembered, however, that the production for 1895 was surprisingly large, being an increase of more than 5,000,000 tons over that of 1894 when the tonnage was 45,506,179. In 1893 it was 47,179,563, in 1892, 45,738,373. It is difficult to discover what condition of the industrial affairs of the State or nation produced the very large increase in the tonnage of 1895.

Production in the Bituminous Region.

During the year covered by this report the number of tons produced was 50,273,656. In 1895 the number was 51,813,112, showing a decrease of 1,539,456 tons. The same conditions which seem to have produced an increase in the anthracite tonnage for 1895 also produced a marked increase in the bituminous region, for we find by comparing the production with that of 1896 and the three years previous to 1895 that there was a great increase in 1895. In 1892 the tonnage was 46,576,576 tons in 1893, 43,421,898 tons; in 1894, 39,800,210 tons. The reduction in 1896, as compared with 1895, was not so great in the bituminous region as in the anthracite region. With the exception of 1895, the tonnage in the bituminous region was never so great as in 1896.

EMPLOYES.

Anthracite Region.

The number of employes in 1892 was 129,797; in 1893, 138,021; in 1894, 139,695; 1895, 143,605; 1896, 149,670. It is seen that there has been an increase in the number of employes every year since 1892. This does not mean, however, that there has been an increase in the

number of days of employment each year, especially with reference to the increase between 1895 and 1896, as the reduction in the number of tons of coal mined is pretty strong evidence that while there has been an increase in the number of employes, there has been a decrease in the number of days employed.

Bituminous Region.

The number of employes in 1892 was 78,789; in 1893, 81,800; in 1894, 86,177; in 1895, 84,904; in 1896, 83,796. A somewhat different condition is found in the bituminous region with reference to the proportion of the number of employes to the number of tons of coal mined in each of the years named, for while there was a reduction in the number of tons of coal mined in the anthracite region, there appears to be an increase in the number of employes. In the bituminous region there has been a decrease in the number of tons of coal mined and a proportionate decrease in the number of employes, applying this comparison to the data returned for the years 1895 and 1896.

FATAL AND NON-FATAL ACCIDENTS.

Anthracite Region.

The number of fatal accidents in the anthracite region in 1896 was 502 and in 1895 420. This large percentage of increase in the number of fatal accidents is due to the fact that 58 lives were lost in the calamity in the mines known as the Twin Shaft Mines in the third district. In 1892 there were 396 fatal accidents; in 1893, 445; in 1894, 439. It will be seen therefore that although there has been an increase in the number of employes from 1895 to 1896, the number of employes to one fatal accident is much less than for any of the other years referred to. This serious view of the case is intensified when it is known that the number of tons of coal mined in 1896 was far below the number mined in 1895. Probably as correct a way of ascertaining the hazard to employes in mines is to compare the number of tons of coal mined per each accident. Upon examination of the data disclosed by the reports of the Inspectors from the anthracite region, it is found that in 1892 there were 115,501 tons of coal mined to one fatal accident; in 1893, 106,021 tons; in 1894, 103,659 tons; in 1895, 121,063 tons; in 1896, 95,766 tons. The unfavorable proportion for 1896, as before stated, can be accounted for to a considerable extent by the very disastrous Twin Shaft Mines accident. It is unfortunate, however, that although the increase in the number of fatal accidents may be accounted for in this way, yet the conditions are not favorable when the proportion is fixed of the number of tons of coal mined to each non-fatal accident. In 1892 there were 44,710 tons mined to each non-fatal accident; in 1893,

44,135; in 1894, 49,516; in 1895, 47,300; in 1896, 41,124. These figures are a frightful commentary upon the effort made through legislation to protect the life and person of those engaged in mining in the anthracite region.

Bituminous Region.

The fatal accidents in this region in proportion to the number of tons of coal mined were far less than in the anthracite region, for while the number of tons mined in 1896 was substantially the same in both regions, or the difference so slight as to be scarcely a factor in making comparisons, yet in 1892 there were 133 fatal accidents; in 1893, 131; in 1894, 124; in 1895, 155; in 1896, 170. Notwithstanding the apparently favorable conditions in the bituminous region with reference to fatal accidents, as compared with those in the anthracite region, the percentage of increase has also been constantly growing, for although, as heretofore seen, there were fewer tons of coal mined in 1896 than in 1895, and fewer persons employed in 1896 than in 1895, there has been a somewhat marked increase in the number of fatal accidents.

With reference to the non-fatal accidents the conditions are not quite so discouraging. In 1892 there were 393 non-fatal accidents; in 1893, 346; in 1894, 357; in 1895, 419; in 1896, 398. Still, in proportion to the number of persons employed and the number of tons of coal mined there can scarcely be said to be any improved conditions in regard to casualties in this region.

GENERAL COMMENT WITH REFERENCE TO ACCIDENTS.

Some interesting comparisons may be made as to the liability to fatal and non-fatal accidents between persons employed in the mining industry and those employed on the railways. Probably no one who has not made a study of the hazard to employes in the two great industries of the Commonwealth has any knowledge as to the relative risk run by these classes of employes. It would seem that the railway employes run a greater risk as to non-fatal accidents than the employes in the coal mines. The railway corporations whose lines are in whole or in part in Pennsylvania and whose reports are filed in the Bureau of Railways of this Department, return 194,324 employes for the year ending June 30, 1896. Of this number there were 11,693 injured, or one to each 17 employed. In the anthracite coal region for the year covered by this report there was one non-fatal accident to each 128 employes. In the bituminous region there was 1 to each 210 employes. These figures, as before indicated, are strong evidence that the liability to non-fatal accidents among persons employed on railways is much greater than among persons employed in the mines. Of the 194,324 employes in the railway service, there were 479 killed during the year ending June 30, 1896, or

one to each 406. Comparing these figures with the fatal accidents in the anthracite coal region, it is found that during the same year there was 1 fatal accident to each 298 employes, while in the bituminous region there was 1 fatal accident to each 466 employes. The deductions from these figures are that the percentage of fatal accidents among the employes in the bituminous coal region does not differ materially from the percentage among the employes of the railways. The conditions with reference to the employes in the anthracite regions are, however, much worse, as the returns show 1 fatal accident to each 298 employes. If this comparison were to be made with reference to the years preceding 1896, as to fatal accidents in the bituminous region, it would be found that the hazard among the miners very closely approaches the degree of hazard among railway employes, for in 1895 there was 1 miner killed to each 342 employed, showing that the difference is not so marked when compared with the years previous to 1896 as when comparison is strictly with the unfavorable figures obtained from the returns for 1896.

PRODUCTION OF COKE.

While there was a falling off in the production of bituminous coal, as heretofore seen, there was also a marked decrease in the production of coke, the tonnage for 1896 being 6,613,180 tons, as against 8,922,329 tons in 1895. In 1894 it was 5,729,244 tons; in 1893, 5,549,296 tons; in 1892, 7,891,630 tons. The footprints of the depressed times that have afflicted the country for the last four years are very clearly seen in the figures indicating the coke production in Pennsylvania, although in 1895 the production was much larger in proportion than the production of either anthracite or bituminous coal. Whatever may have been the cause for the marked increase in the amount of coal produced in that year, or the marked increase in the production of coke, it must have been some cause other than the demand for consumption of these articles. Fayette county is now the leading producer of coke, the amount for the year being 3,692,397 tons. The next county in the amount of production is Westmoreland, with 2,073,291 tons. A number of tables have been compiled and are inserted in this report. The data have been arranged with reference to accidents, production of coal in both districts, the average production per employe, etc., etc. They will be found of interest to those who make a study of the mining industry. The reports of the mine Inspectors are submitted herewith, as required by law.

In closing the observations with reference to the mining report, it is proper to say that one of the courts of the Commonwealth has decided that at least a portion of the bituminous mining law is un-

constitutional on the grounds that by reason of certain limitations the act itself is local, thus rendering it unconstitutional. The objections to it on these grounds were that in framing the act its phraseology was such that it did not apply to all the counties where bituminous coal was produced. A consultation was had with some of the mine Inspectors of the bituminous region, and it is understood that an appeal was taken from the decision of Judge Gordon, of the Clearfield county court, who had pronounced the act unconstitutional and that by virtue of such appeal the case may be passed upon by the Supreme Court. It was also decided that the law now on the statute books regulating mining in the bituminous region should be introduced as a new bill, re-enacting all the provisions of the old act and eliminating from its provisions anything which might indicate that the bill was local in its application.

Production of coal and coke in tons. Number of employes and number of fatal and non-fatal accidents.

DISTRICT.	COAL.					COKE.				
	1896.	1895.	1894.	1893.	1892.	1896.	1895.	1894.	1893.	1892.
Anthracite.										
First,	6,217,447	6,510,817	5,907,531	†6,202,131 34	†5,184,088.36					
Second,	5,895,669.08	*6,189,495.18	*5,674,539.09	†5,936,475.10	†6,013,527.19					
Third,	5,714,029	6,213,834	5,541,952	†5,629,914.85	*5,659,730.09					
Fourth,	8,017,852.01	8,066,539	*7,162,961.05	†8,065,768.95	*7,549,605.02					
Fifth,	5,872,427	6,590,966	6,132,627	†6,239,058.50	†5,842,721.19					
Sixth,	6,521,510	7,164,898	6,340,631	6,674,807	†6,287,363.06					
Seventh,	5,594,649	6,184,542	5,404,823	†5,288,892.88	*5,584,678 17					
Eighth,	4,239,847	3,925,013	3,331,315	3,142,504.63	*3,066,092					
Total,	48,074,330	50,847,104	45,506,179.14	47,179,573 25	45,738,371 90					
Bituminous.										
First,	6,697,601	5,539,951	5,282,151	4,876,307	4,209,437					
Second,	7,364,771½	9,128,787½	6,424,633	6,635,908.25	†8,003,246.50	1,902,643½	2,569,685	1,635,243	1,511,871.15	2,306,788.87
Third,	3,243,851	3,254,947	2,641,120	3,224,130	†3,207,814.25	24,523	.....	3,488	27,039	66,458
Fourth,	5,762,765	5,294,251	4,296,596	4,850,122	†3,606,142.36	409,086	306,198	242,810	289,844	70,473
Fifth,	4,979,419	6,423,802	3,908,348	3,624,559	7,360,101	2,629,541	3,756,487	2,264,971	2,092,993	4,280,570
Sixth,	4,722,873	4,406,750	2,981,088	3,140,284	7,369,158	151,134	132,992	41,662	109,348	1,033,866
Seventh,	5,624,825	4,693,508	2,438,875	4,435,416	5,897,942	7,476	5,000	6,000	3,000	12,000
Eighth,	3,809,472	4,709,932	3,454,078	5,043,078	6,811,735	47,877	24,140	13,302	50,857	128,475
Ninth,	5,210,992	5,652,818	4,690,811	8,814,178	.....	1,265,318	1,985,206	1,473,982	1,240,163 75	.....
Tenth,	2,857,096	2,708,271	1,882,530	2,772,116	.....	175,614	42,221	147,786	224,181	.....
Total,	$50,273,656½	51,813,112½	43,800,210	43,421,898.25	46,576,576.11	6,613,180½	8,922,329	5,729,244	5,549,296.90	7,891,630.87
Grand total,	98,347,986	102,660,216½	85,306,389.14	90,601,461.50	92,314,947.01	6,613,180½	8,922,329	5,729,244	5,549,296.90	7,891,630.87

* Decimals indicate twentieths of a ton.
† Decimals indicate hundredths of a ton.

Production of coal and coke in tons. Number of employes and number of fatal and non-fatal accidents—Continued.

DISTRICTS.	Number of Employes.					Fatal Accidents.					Non-Fatal Accidents.				
	1896.	1895.	1894.	1893.	1892.	1896.	1895.	1894.	1893.	1892.	1896.	1895.	1894.	1893.	1892.
Anthracite.															
First,	17,604	16,272	16,014	15,687	14,121	51	39	47	37	35	134	121	98	96	115
Second,	16,358	16,269	15,627	14,429	14,111	39	34	41	35	33	161	192	141	173	181
Third,	17,577	17,413	16,965	15,779	15,020	108	68	51	64	50	209	167	148	178	163
Fourth,	26,059	24,669	22,764	22,790	21,206	75	74	71	47	88	225	221	229	221	180
Fifth,	17,568	18,467	18,361	17,540	16,277	42	52	58	58	48	91	102	95	99	110
Sixth,	20,979	19,810	20,109	21,872	20,608	67	59	73	60	54	99	52	94	139	120
Seventh,	20,195	19,389	19,121	19,197	18,437	76	59	78	77	45	106	114	76	119	101
Eighth,	15,395	14,306	10,734	10,777	10,417	46	37	20	27	28	140	106	40	44	53
Total,	149,670	142,605	139,965	138,021	130,197	502	420	439	445	396	1,169	1,075	919	1,069	1,023
Bituminous.															
First,	10,977	11,686	11,175	10,114	9,393	44	25	25	25	24	123	66	101	77	87
Second	11,040	12,195	12,148	10,993	12,004	26	32	18	14	25	31	55	39	28	41
Third,	5,964	6,211	6,734	6,112	6,297	3	7	6	3	2	17	23	12	35	26
Fourth,	8,858	8,578	9,036	8,293	6,597	26	14	11	5	9	19	32	20	22	14
Fifth,	7,524	8,389	7,619	6,663	10,361	18	13	13	12	23	48	70	47	44	71
Sixth,	8,040	7,081	6,944	6,353	12,241	11	8	13	12	14	16	19	17	15	21
Seventh,	10,564	6,838	9,844	9,398	10,619	22	18	9	21	25	49	55	47	44	56
Eighth,	7,197	8,071	8,160	9,423	12,277	6	13	13	20	11	35	34	17	31	77
Ninth,	8,273	8,557	9,279	8,754	.....	19	20	11	15	.....	41	40	40	55	.....
Tenth,	5,389	7,098	5,247	5,697	.....	4	3	2	4	.....	18	25	17	25	.....
Total,	83,796	84,904	86,177	81,806	78,789	179	155	124	131	133	398	419	357	346	393
Grand total,	233,466	228,509	225,872	219,821	208,986	681	575	563	576	529	1,567	1,494	1,276	1,415	1,416

* Decimals indicate twentieths of a ton.
† Decimals indicate hundredths of a ton.

Table showing production of Anthracite Coal and number of employes in and about the mines by counties.

Counties.	Tons of Coal.					Number of Employes.				
	1896.	1895.	1894.	1893.	1892.	1896.	1895.	1894.	1893.	1892.
Carbon,	1,488,550	1,577,146	1,589,395	1,510,289.50	1,427,542.55	4,153	4,382	5,391	4,410	3,848
Columbia,	443,330	493,042	510,537	741,990.74	889,489.85	2,074	1,756	2,011	2,654	2,424
Dauphin,	702,335	712,856	699,607	640,723.17	630,879	1,988	1,985	2,092	2,094	2,104
Lackawanna,	11,638,479	11,859,382	11,170,382.09	11,667,550.25	11,410,552.95	32,771	30,367	30,629	29,021	27,233
Luzerne,	17,964,900	19,143,101	17,243,928.05	18,253,144.75	17,548,508	56,717	55,798	52,994	51,392	47,944
Northumberland,	4,117,569	4,573,144	3,893,660	3,731,404.63	3,724,233.70	14,787	14,522	13,870	13,487	12,835
Schuylkill,	11,092,772	11,495,388	9,992,085.97	9,992,085.97	9,564,534.60	35,660	32,292	31,696	33,611	32,099
Sullivan,	151,758	152,141	.....	70,418	76,009.65	334	312	.....	307	261
Susquehanna,	474,637	840,904	413,578	571,956.19	457,622.30	1,186	2,191	1,012	1,045	999
Wayne,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,	48,074,330	50,847,104	45,506,179.14	47,179,563.25	45,738,372.90	149,670	143,605	139,695	138,021	129,797

Table showing production of Bituminous coal and coke and number of employes in and about the mines by counties.

Counties.	Tons of Coal.				
	1889.	1890.	1891.	1892.	1893.
Allegheny	7,878,414	7,346,699	6,417,651	6,894,510.25	7,227,570.15
Armstrong	566,771	649,174	577,928	300,222	349,561
Beaver	226,587	297,862	195,732	151,346	188,879
Bedford	319,575	436,804	288,753	490,416	505,760
Blair	281,237	351,299	269,213	170,144	278,495
Bradford	52,467	57,711	25,474	42,736	56,517
Butler	223,015	229,895	134,338	160,440	192,040.50
Cambria	4,899,048	5,461,629	2,005,262	2,377,459	3,289,194
Cameron					
Centre	445,268	306,812	574,548	1,259,351	272,431.61
Clarion	764,782	428,675	400,088	772,622	788,870.25
Clearfield	4,889,793	5,442,299	4,156,310	6,081,324	6,631,013.18
Clinton	134,568	94,692	100,000	94,582	92,242
Elk	799,669	602,428	515,076	617,878	776,852.19
Fayette	8,502,571	10,124,541	6,684,153	6,105,845	7,791,920
Greene					
Huntingdon	333,935	289,092	187,070	292,789	350,005
Indiana	392,929	483,795	400,878	359,170	628,667
Jefferson	4,717,365	4,528,774	3,467,481	672,297	2,682,774.28
Lawrence	298,666	227,599	135,413	197,277	119,339
Lycoming	82,730	83,830	80,160	63,195	17,600
McKean	56,989	58,207	19,844	19,462	21,058
Mercer	502,317	502,945	297,662	486,049	442,692.75
Potter					
Somerset	621,980	521,995	434,288	482,770	423,179
Sullivan*			99,528		
Tioga	860,658	783,814	684,027	942,252	964,756
Washington	4,366,518	5,410,694	3,378,778	2,414,414	2,726,941
Westmoreland	8,566,705	10,225,245	7,739,080	7,585,310	8,096,964.38
Total	50,278,656	53,813,112	39,800,250	44,423,898.25	46,576,576.11

*Now in anthracite region.

Table showing production of Bituminous coal and coke and number of employes in about the mines by counties—Continued.

Counties.	Tons of Coke.					Number of Employes.				
	1896.	1895.	1894.	1893.	1892.	1896.	1895.	1894.	1893.	1892.
Allegheny,	250	5,000	6,006	5,000	12,000	14,732	15,022	15,345	14,351	13,447
Armstrong,				6,556		1,100	1,139	1,204	632	740
Beaver,			80	100		608	592	455	293	467
Bedford,	39,200	40,420	6,016	5,000	25,876	831	863	845	967	951
Blair,	36,943	28,700	8,200	39,361	101,117	523	788	707	536	635
Bradford,						115	109	90	33	122
Butler,						500	489	461	328	356
Cambria,	165,435	142,047	47,747	122,219	217,838	8,327	7,219	7,048	6,691	5,672
Cameron,										
Centre,			13,069	83,202	27,600	773	632	647	2,416	729
Clarion,						828	842	1,021	1,626	1,488
Clearfield,	157,756	117,830	45,574	131,360	105,568	8,989	9,416	9,733	10,933	10,639
Clinton,						211	198	151	180	173
Elk,			8,257	29,421	17,181	1,287	1,093	1,297	1,332	1,243
Fayette,	3,692,397	5,339,887	3,426,791	3,011,054	4,268,825	12,250	13,387	12,566	11,185	11,621
Greene,										
Huntingdon,				29,103	4,604	701	630	689	630	668
Indiana,	22,798	7,172	5,250	33,620	40,234	800	707	760	873	1,021
Jefferson,	407,865	276,578	219,655	255,473	394,494	5,972	6,166	6,342	4,234	5,974
Lawrence,						424	503	494	460	267
Lycoming,						166	164	166	118	60
McKean,						94	86	42	39	44
Mercer,						1,022	1,118	1,137	1,010	1,112
Potter,										
Somerset,	9,086	6,862	5,027	9,952	11,745	860	618	865	677	544
Sullivan,*								337		
Tioga,	1,032	976	450	984	1,093	1,988	2,085	2,207	2,230	2,121
Washington,	7,200					7,305	6,835	6,998	7,110	5,502
Westmoreland,	2,073,291	2,956,908	2,007,328	1,700,889.90	2,626,454.87	13,389	14,203	14,570	13,016	13,083
Total,	6,613,180	8,922,329	5,729,244	5,549,296.90	7,891,630.87	83,796	84,904	86,177	81,800	78,789

*Now in anthracite region.

Number of Miners Employed for Five Years.

	1896.	1895.	1894.	1893.	1892.
Anthracite Districts.					
First,	4,943	4,554	4,455	4,548	4,127
Second,	3,767	3,133	3,787	3,5.4	3,490
Third,	4,411	4 253	3,985	3,786	3 594
Fourth,	5,819	5,319	5 014	4,803	4,485
Fifth,	4,411	3 506	2,462	3,1 7	2 951
Sixth,	1,674	4,389	4 414	4,745	4,141
Seventh,	6,144	5 917	5,710	5,565	5,468
Eighth,	3,400	2,705	2,541	2,773	2,520
Total,	34,569	34,629	33,356	32, 81	30 7.6
Bituminous Districts.					
First,	8,465	8,836	8,946	7,000	7,122
Second,	6,876	7,198	7,428	6,890	7,227
Third,	4,084	4 954	5,310	4,719	4,723
Fourth,	6,25.	6 1.7	6,022	6,110	4,907
Fifth,	3,859	4,030	3,797	3,245	4,941
Sixth,	5,894	5,181	5,293	4,701	8,205
Seventh,	8,231	7,698	7,869	7,365	8,290
Eighth,	5,406	5,842	6,234	7,008	8,257
Ninth,	5,510	5,332	5,922	5,719	*
Tenth,	3,973	3,627	3,790	4,720	*
Total,	59,155	58,875	61,211	57,507	53,939
Grand total,	96,724	93,504	94,577	90 388	84,745

*Previous to 1893 there were eight bituminous districts; in that year the districts were rearranged and two new ones created.

Average Number of Tons of Coal Produced per Annum in Each District for Each Employe for Five Years.

	1896.	1895.	1894.	1893.	1892
Anthracite District.					
First,	353	400	369	397	41.
Second,	360½	380	363	411	426
Third,	325	257	327	357	377
Fourth,	308	328	315	354	356
Fifth,	334	377	334	356	359
Sixth,	311	362	315	3 5	30.
Seventh,	277	319	283	276	303
Eighth,	311	347	311	292	294
Bituminous Districts					
First,	610	493	473	482	458
Second,	667	761	529	604	660
Third,	544	522	344	527	504
Fourth,	670	617	476	585	547
Fifth,	662	766	513	545	710
Sixth,	590	622	429	494	691
Seventh,	542	477	248	472	555
Eighth,	529	583	423	535	604
Ninth,	620	690	507	550	*
Tenth,	530	531	359	487	*

*Previous to 1893 there were eight bituminous districts; in that year the districts were rearranged and ten created.

Number of Fatal Accidents and their Causes, that Occurred in and About the Mines During 1896.

Districts.	From falls of coal.	From falls of roof rock, slate, etc.	From premature explosions of blasts.	From explosions of powder, dynamite, etc.	From explosions of gas.	From falling down shafts, slopes, etc.	From being run over by cars, etc.	From being kicked by mules.	From miscellaneous causes.	Total.
Anthracite.										
First,	9	23	5	1	3	.....	6	.....	1	51
Second,	1	20	3	.....	1	2	11	1	.....	39
Third	89	.....	3	.....	2	2	4	.....	8	108
Fourth,	25	.....	9	.....	14	3	12	.....	10	73
Fifth,	18	.....	.....	2	.....	.....	11	.....	11	42
Sixth,	25	.....	8	.....	7	2	9	.....	16	67
Seventh,	31	.....	8	3	4	4	19	1	14	76
Eighth,	3	7	.....	1	12	5	6	1	11	46
Total,	201	53	36	7	43	18	78	3	71	502
Bituminous.										
First,	7	25	.....	4	.....	.....	5	.....	3	44
Second,	5	14	.....	.....	.....	.....	6	.....	1	26
Third,	2	1	.....	.....	.....	.....	.....	.....	.....	3
Fourth,	8	3	.....	.....	15	.....	.....	1	.....	27
Fifth	5	1	.....	.....	.....	.....	6	.....	3	18
Sixth,	10	1	.....	.....	.....	.....	.....	.....	.....	11
Seventh,	.....	14	.....	.....	1	.....	4	.....	2	20
Eighth,	1	4	.....	.....	.....	.....	1	.....	.....	6
Ninth,	4	6	.....	.....	2	.....	2	.....	5	19
Tenth,	.....	.....	.....	1	.....	.....	1	.....	2	4
Total,	42	72	.....	5	18	.....	25	1	16	179
Grand total,	243	125	36	12	61	18	103	4	87	681

Number of Non-Fatal Accidents and their Causes, that Occurred in and About the Mines During the Year 1896.

Districts.	From falls of coal.	From falls of rock roof, etc.	From premature explosions of blasts.	From explosions of powder, dynamite, etc	From explosions of gas	From falling down shafts, slopes, etc.	From being run over by cars, etc.	From being kicked by mules.	From miscellaneous causes.	Total.
Anthracite.										
First	9	52	11	1	13	.....	33	.....	15	134
Second	39	46	4	13	8	1	59	7	13	190
Third	85	.....	23	.....	27	.....	36	.....	38	209
Fourth	59	.....	14	.....	66	.....	46	.....	40	225
Fifth	34	.....	15	3	.....	.....	20	.....	19	91
Sixth	23	.....	.....	16	24	.....	11	.....	25	99
Seventh	34	.....	.....	3	19	2	31	1	16	106
Eighth	18	21	8	.....	15	1	29	2	26	120
Total	281	119	75	36	192	4	256	10	192	1,165
Bituminous.										
First	12	52	.....	.....	7	.....	20	.....	15	107
Second	7	15	.....	.....	.....	.....	7	.....	2	31
Third	4	5	.....	1	.....	.....	3	.....	4	17
Fourth	7	5	.....	6	.....	.....	1	.....	.....	19
Fifth	11	11	.....	.....	3	.....	11	.....	3	38
Sixth	2	3	1	.....	.....	.....	9	.....	1	15
Seventh	1	25	.....	1	6	.....	16	.....	.....	49
Eighth	10	14	4	1	.....	.....	6	.....	1	36
Ninth	10	12	.....	.....	4	.....	9	.....	6	41
Tenth	7	1	.....	.....	.....	.....	7	.....	3	18
Total	71	142	5	9	20	.....	99	.....	36	382
Grand total	352	261	80	45	212	4	355	10	128	1,547

LAWS RELATING

TO

COAL MINING.

AN ACT

To protect miners in the bituminous coal region of the Commonwealth.

Section 1. *Be it enacted, &c.,* That after the period of three months from the passage of this act, any miner employed by an individual, firm or corporation for the purpose of mining coal, shall be entitled to receive from his employer, and failing to receive then to collect, by due process of law, at such rates as may have been agreed upon between the employer and the employed, full and exact wages accruing to him for the mining of all sizes of merchantable coal so mined by him, whether the same shall exist in the form of nut or lump coal; and in the adjudication of such wages seventy-six pounds shall be deemed one bushel, and two thousand pounds net, shall be deemed one ton of coal: *Provided,* That nothing contained in this act shall be construed to prevent operators and miners contracting for any method of measuring and screening the coal mined by such miners, as they may contract for.

Section 2. That at every bituminous coal mine in this Commonwealth, where coal is mined by measurement, all cars, filled by miners or their laborers, shall be uniform in capacity at each mine; no unbranded car or cars shall enter the mine for a longer period than three months, without being branded by the mine Inspector of the district, wherein the mine is situated; and any owner or owners, or their agents, violating the provisions of this section, shall be subject to a fine of not less than one dollar per car for each and every day as long as the car is not in conformity with this act, and the mine Inspector of the district, where the mine is located, on receiving

notice from the check-measurer or any five miners working in the mine, that a car or cars are not properly branded, or not uniform in capacity according to law, are used in the mine where he or they are employed, then inside of three days from the date of receiving said notice, it shall be his duty to enforce the provisions of this section, under penalty of ten dollars for each and every day he permits such car or cars to enter the mine: *Provided*, That nothing contained in this section shall be construed or applied to those mines who do not use more than ten cars.

Section 3. That at every bituminous coal mine in this Commonwealth, where coal is mined by weight or measure, the miners or a majority of those present at a meeting called for that purpose, shall have the right to employ a competent person as check weighman, or check-measurer as the case may require, who shall be permitted at all times to be present at the weighing or measurement of coal, also have power to weigh or measure the same, and during the regular working hours to have the privilege to balance and examine the scales, or measure the cars: Provided, That all such balancing or examination of scales shall only be done in such way, and in such time, as in no way to interfere with the regular working of the mines. And he shall not be considered a trespasser during working hours while attending to the interests of his employers. And in no manner shall he be interfered with or intimidated by any person, agent, owner or miner. And any person violating these provisions shall be held and deemed guilty of a misdemeanor, and upon conviction thereof, he shall be punished by a fine of not less than twenty dollars, and not exceeding one hundred dollars, or imprisonment at the discretion of the court. It shall be a further duty of check-weighman or check-measurer to credit each miner with all merchantable coal mined by him, on a proper sheet or book to be kept by him for that purpose. When differences arise between the check-weighman or check-measurer and the agent or owners of the mine, as to the uniformity, capacity or correctness of scales or cars used, the same shall be referred to the mine Inspector of the district where the mine is located, whose duty it shall be to regulate the same at once; and in the event of said scales or cars proving to be correct, then the party or parties applying for the testing thereof to bear all costs and expenses thereof; but if not correct then the owner or owners of said mine to pay the cost and charges of making said examination: *Provided further*, That should any weighman or weighmen, agent or check-measurer, whether employed by operators or miners, knowingly or willfully adopt or take more or less pounds for a bushel or ton than is provided for in the first section of this act, or willfully neglect the balancing or examining of the scales or cars, or know-

ingly and willfully weigh coal with an incorrect scale, he shall be guilty of a misdemeanor, and upon conviction thereof, shall be imprisoned in the county jail for three months.

Section 4. All acts or parts of acts inconsistent with this act are hereby repealed.

Approved—The 1st day of June, A. D. 1883.

ROBT. E. PATTISON.

AN ACT

To provide payment to the miner for all clean coal mined by him.

Section 1. *Be it enacted, &c.*, That from and after the passage of this act all individuals, firms and corporations engaged in mining coal in this Commonwealth, who, instead of dumping all the cars that come from the mine into a breaker or chutes, shall switch out one or more of the cars for the purpose of examining them, and determining the actual amount of slate or refuse, by removing said slate or refuse from the car, and who shall, after so doing, willfully neglect to allow the miner in full for all clean coal left after the refuse, dirt or slate is taken out, at the same rate paid at the mine for clean coal less the actual expense of removing said slate or refuse, he shall be deemed guilty of a misdemeanor.

Section 2. That any individual, firm or corporation as aforesaid, violating the provisions of this act, upon suit being brought and conviction had, shall be sentenced by the court to pay a fine of not more than one hundred dollars, and to make restitution by paying to the miner the amount to which, under this act, he would be entitled for the coal mined by him, and for which he was not paid.

Approved—The 13th day of June, A. D. 1883.

ROBT. E. PATTISON.

AN ACT

To provide for the recovery of the bodies of workmen enclosed, buried or entombed in coal mines.

Section 1. *Be it enacted, &c*, That whenever any workman or workmen shall heretofore have been, or shall hereafter be enclosed, entombed or buried in any coal mine in this Commonwealth, it shall

be the duty of the court, sitting in equity, in the county wherein such workman or workmen are enclosed, entombed or buried, upon the petition of any of the relatives of those enclosed, entombed or buried, to make an order of court for the petitioner to take testimony in order that the court may ascertain whether such workman or workmen, or the body or bodies of such workman or workmen, can be recovered or taken out of said mine.

If, after full hearing, it shall appear to the court that such undertaking is feasible or practicable, said court may forthwith issue a peremptory mandamus to the owner or owners, lessee or lessees, operator or operators of such coal company, to forthwith proceed to work for and recover and take out the body or bodies of such workman or workmen, and said court shall have full authority to enforce such peremptory mandamus in the manner already provided for the enforcement of such process.

Approved—The 9th day of May, A. D. 1889.

JAMES A. BEAVER.

AN ACT

To provide for the examination of miners in the anthracite region of this Commonwealth and to prevent the employment of incompetent persons as miners in anthracite coal mines

Section 1. *Be it enacted, &c.,* That hereafter no person whomsoever shall be employed, or engaged in the anthracite coal region of this Commonwealth as a miner in any anthracite coal mine, without having obtained a certificate of competency and qualification so to do from the "Miners' Examining Board" of the proper district, and having been duly registered as herein provided.

Section 2. That there shall be established, in each of the inspection districts in the anthracite coal region, a board to be styled the "Miners' Examining Board" of the ———— district, to consist of nine persons, who shall be appointed by the president judge of the proper county, from among the most skillful miners actually engaged in said business in their respective districts, and who must have had five years' practical experience in the same, three of whom to serve one year, three two years and three five years, and thereafter annually three to serve for the term of three years. The said persons, so appointed, shall be and constitute the "Miners' Examining Board" for their respective districts and shall hold the office for the term for which they were appointed, or until their successors are duly

appointed and qualified, and shall receive as compensation for their services three dollars per day for each day actually engaged in this service and all legitimate and necessary expenses incurred in attending the meetings of said board, under the provisions of this act, and no part of the salary of said board, or expenses thereof, shall be paid out of the State Treasury.

Each of said boards shall organize by electing one of their members secretary, and by dividing themselves into three sub-committees for the more convenient discharge of their duties; each of said committees shall have all the powers hereinafter conferred upon the board, and whenever in this act the words examining board are used, they shall be taken to include any of the committees thereof.

Every member of said board shall, within ten days of their appointment or being appraised of the same, take and subscribe an oath or affirmation, before a properly qualified officer of the county in which they reside, that they will faithfully and impartially discharge the duties of their office.

Any vacancies occurring in said board shall be filled in the manner hereinbefore provided, from among such only as are eligible for original appointment.

Section 3. Each of said examining boards shall designate some convenient place within their districts for the meetings of the several committees thereof, of which due notice shall be given, by advertisement in two or more newspapers of the proper county, and so divided as to reach, as nearly as practicable, all the mining districts therein. Each of said committees shall open, at the designated place of meeting, a book of registration, in which shall be registered the name and address of each and every person duly qualified under this act to be employed as a miner in an anthracite coal mine. And it shall be the duty of all persons now employed as miners, or who shall hereafter desire to be so employed, to apply to said board and be registered as such within ninety days thereafter; application for registration only may be sent by mail to the board after being properly attested before any person authorized to administer an oath or affirmation in the county in which the applicant resides. The form of application shall be subject to such regulation as may be prescribed by the boards, but in no case shall any applicant be put to any unnecessary expense in order to secure registration.

Section 4. That said board shall be entitled to demand and receive from each applicant for examination and registration and for the certificate herein and after provided, a fee not exceeding fifty cents, and for registration only, a fee not to exceed twenty-five cents, and a like fee of twenty-five cents for registering any person who shall have been examined and registered by any other said board, and the

amount derived from this source shall be held by said boards and be applied to the expenses and salaries herein provided, and such as may arise under the provisions of this act; and the said boards shall report annually to the court of common pleas of their respective counties and the Bureau of Statistics, all moneys received and disbursed under the provisions of this act, together with the number of miners examined and registered under this act and the number who failed to pass the required examination.

Section 5. That it shall be the duty of each of said boards to meet at least once every month, at such places as they may deem expedient, and examine all persons who shall desire to be employed as miners in their respective districts, and the said boards shall grant to such persons as may be qualified, certificates of competency or qualification, which shall entitle the holder thereof to be employed as, an do the work of, miners as may be expressed in said certificate, and such certificate shall be good and sufficient evidence of registration and competency under this act, and the holder thereof shall be entitled to be registered without examination in any other of the anthracite districts, upon the payment of the fee herein provided. All persons applying for examination for a certificate of competency, or to entitle them to be employed as miners, must produce satisfactory evidence of having had not less than two years' practical experience as a mine laborer.

Section 6. That no person shall hereafter engage as a miner in any anthracite coal mine without having obtained such certificate as aforesaid. And no person shall employ any person as a miner who does not hold such certificate as aforesaid, and no mine foreman or superintendent shall permit or suffer any person to be employed under him, or in the mines under his charge and supervision as a miner, who does not hold such certificate. Any person who shall violate or fail to comply with the provisions of this act shall be guilty of a misdemeanor and on conviction thereof, in the court of quarter sessions, shall be sentenced to pay a fine not exceeding one hundred dollars.

Section 7. That all persons who shall be actually engaged as miners at the time of the passage of this act, shall be entitled to registration without examination, upon producing satisfactory proof that they have been employed in an anthracite mine in this Commonwealth.

Section 8. It shall be the duty of the several Miners' Examining Boards to investigate all complaints or charges of non-compliance or violation of the provisions of this act and prosecute all persons so offending, whenever there shall appear to the board reasonable ground for such action.

Section 9. That all acts and parts of acts inconsistent herewith be and the same are hereby repealed.

Approved—The 9th day of May, A. D. 1889.

JAMES A. BEAVER.

AN ACT

To provide for the health and safety of persons employed in and about the anthracite coal mines of Pennsylvania and for the protection and preservation of property connected therewith.

Article I.

Section 1. *Be it enacted, &c.*, That this act shall apply to every anthracite coal mine or colliery in the Commonwealth, provided the said mine or colliery employs more than ten (10) persons.

Article II.

Inspectors and Inspection Districts.

Section 1. The counties of Susquehanna, Wayne, Luzerne, Lackawanna, Carbon, Schuylkill, Northumberland, Columbia, Lebanon and Dauphin, or so much of them as may be included under the provisions of this act, shall be divided into eight (8) inspection districts as follows:

Section 2. *First.* All that portion of the Lackawanna coal field lying northeast of East and West Market streets in the city of Scranton, and of Slocum and Drinker streets in the borough of Dunmore, including the coal fields of Susquehanna and Wayne counties.

Second. That portion of the Lackawanna coal field in Lackawanna county lying southwest of East and West Market streets in the city of Scranton, and west of Slocum and Drinker streets in the borough of Dunmore.

Third. That portion of the Wyoming coal fields situated in Luzerne county, east of and including Plains and Kingston townships.

Fourth. The remaining portion of the Wyoming coal field west of Plains and Kingston townships, including the city of Wilkes-Barre and the boroughs of Kingston and Edwardsville.

Fifth. That part of Luzerne county lying south of the Wyoming coal field together with Carbon county.

Sixth. That part of the Schuylkill coal field in Schuylkill county lying north of the Broad Mountain and east of a meridian line through the center of the borough of Girardville.

Seventh. That part of the Schuylkill coal field in Schuylkill county lying north of the Broad Mountain and west of a meridian line through the center of the borough of Girardville, together with Columbia, Northumberland and Dauphin counties.

Eighth. All that part of the Schuylkill coal field in Schuylkill county lying south of the Mahanoy Valley, and the county of Lebanon.

Section 3. In order to fill any vacancy that may occur in the office of Inspector of Mines by reason of expiration of term, resignation, removal for cause or from any other reason whatever, the judges of the court of Lackawanna county shall appoint an examining board for the counties of Susquehanna, Wayne and Lackawanna, and the judges of the court of Luzerne county shall appoint an examining board for the counties of Sullivan, Carbon and Luzerne, and the judges of Schuylkill county shall appoint an examining board for the counties of Schuylkill, Northumberland, Lebanon, Columbia and Dauphin.

Section 4. The said Board of Examiners shall be composed of three reputable coal miners in actual practice and two reputable mining engineers, all of whom shall be appointed at the first term of court in each year, to hold their places during the year. Any vacancies that may occur in the Board of Examiners shall be filled by the court as they occur. The said Board of examiners shall be permitted to engage the services of a clerk, and they, together with the clerk, shall each receive the sum of five dollars per day for every day they are actually engaged in the discharge of their duties under this appointment, and mileage at the rate of six cents per mile from their home to the place of meeting and return by the nearest practicable railway route.

Section 5. Whenever candidates for the office of Inspector are to be examined, the said examiner shall give public notice of the fact in not more than five papers published in the inspection district and at least two weeks before the meeting, specifying the time and place where such meeting shall be held. The said examiners shall be sworn to a faithful discharge of their duties, and four of them shall agree in their recommendation of all candidates to the Governor who have answered ninety per centum of the questions; the names of the applicants, the questions asked and answered thereto shall be sent to the Secretary of the Commonwealth, and published in at least two local papers, daily or weekly, and shall recommend only such applicants as they find qualified for the office.

Should the Board of Examiners not be able to agree in their selection and recommendation of a candidate, the judges of the court of common pleas shall dissolve the said board and appoint a new board of like qualifications and powers.

of the Commonwealth at the close of every year, enumerating all the accidents in and about the collieries of his district, marking in tabular form those accidents causing death or serious personal injury, the condition of the workings of the said mines with regard to the safety of the workmen therein and the ventilation thereof, and the result of his labors generally shall be fully set forth.

Section 10. The Board of Examiners, each for its respective district as hereinbefore provided for, in order to divide more equitably among the several mine Inspectors the labor to be performed and the territory to be covered by them in the performance of the duties of the office, may, at any time when they shall deem it desirable or necessary, readjust the several districts by the creation of new boundary lines, thereby adding to or taking from, as the case may be, the districts as at present bounded and described, if the court having jurisdiction approve the same.

And in case it shall be deemed desirable or necessary to readjust any contiguous district, comprised by more than one judicial district, by the creation of new boundary lines, then in such case the examining boards of the territory affected or requiring such adjustment, shall, in joint session, make such change or readjustment as they shall jointly agree upon, if the nearest court having jurisdiction to the territory affected to whom the said joint examining boards shall submit the matter, shall approve the same.

Section 11. The mine Inspector shall have the right, and it is hereby made his duty, to enter, inspect and examine any mine or colliery in his district and the workings and machinery belonging thereto, at all reasonable times, either by day or night, but not so as to impede or obstruct the working of the colliery, and shall have power to take one or more of his fellow Inspectors into or around any mine or colliery in the district for which he is appointed, for the purpose of consultation or examination.

He shall also have the right, and it is hereby made his duty, to make inquiry into the condition of such mine or colliery workings, machinery, ventilation, drainage, method or lighting or using lights and into all matters and things connected with or relating to, as well as to make suggestions providing for the health and safety of persons employed in or about the same, and especially to make inquiry whether the provisions of this act have been complied with.

The owner, operator or superintendent of such mine or colliery is hereby required to furnish the means necessary for such entry, inspection, examination, inquiry and exit.

The Inspector shall make a record of the visit, noting the time and material circumstances of the inspection.

Section 12. No person who shall act or practice as a land agent or

Upon the recommendation of the Board of Examiners as aforesaid, the Governor shall appoint such person or persons to fill the office of Inspector of mines under this act, and shall issue to him a commission for the term of five years, subject, however, to removal for neglect of duty or malfeasance in office as hereinafter provided for.

Section 6. The person so appointed must be a citizen of Pennsylvania and shall have attained the age of thirty years. He must have a knowledge of the different systems of working coal mines, and he must produce satisfactory evidence to the Board of Examiners of having had at least five (5) years' practical experience in anthracite coal mines of Pennsylvania. He must have had experience in coal mines where noxious and explosive gases are evolved.

Before entering upon the duties of his office he shall take an oath or affirmation before an officer properly qualified to administer the same, that he will perform his duties with fidelity and impartiality; which oath or affirmation shall be filed in the office of the prothonotary of the county. He shall also provide himself with the most modern instruments and appliances for carrying out the intentions of this act.

Section 7. The salary of each of the said Inspectors shall be three thousand dollars per annum, which salary, together with the expense incurred in carrying into effect the provisions of this act, shall be paid by the State Treasurer out of the treasury of the Commonwealth upon the warrant of the Auditor General.

Section 8. In case the Inspector becomes incapacitated to perform the duties of his office, for a longer period than two weeks, it shall be the duty of the judges of the court of common pleas to deputize some competent person recommended by the Board of Examiners to fill the office of Inspector until the said Inspector shall be able to fulfill the duties of his office and the person so appointed shall be paid in the same manner as is provided for the Inspector of Mines.

Section 9. Each of the said Inspectors shall reside in the district for which he is appointed, and shall give his whole time and attention to the duties of the office. He shall examine all the collieries in his district as often as his duties will permit or as often as the exigencies of the case or the condition of the mines require it; see that every necessary precaution is taken to secure the safety of the workmen and that the provisions of this act are observed and obeyed; attend every inquest held by the coroner, or his deputy, upon the bodies of persons killed in or about the collieries in his district; visit the scene of the accident for the purpose of making an examination into the particulars of the same whenever loss of life or serious personal injury occurs as elsewhere herein provided for, and make an annual report of his proceedings to the Secretary of Internal Affairs

as the manager or agent of any coal mine or colliery, who is pecuniarily interested in operating any coal mine or colliery in his district, shall, at the same time, hold the office of Inspector of Mines under this act.

Section 13. Whenever a petition signed by fifteen or more reputable coal operators or miners, or both, setting forth that any Inspector of mines neglects his duties, or is incompetent, or is guilty of malfeasance in office, it shall be the duty of the court of common pleas of the proper county to issue a citation in the name of the Commonwealth to the said Inspector to appear at not less than five days' notice, on a day fixed, before said court and the court shall then proceed to inquire into and investigate the allegations of the petitioners. If the court find that said Inspector is neglectful of his duties or that he is incompetent to perform the duties of the office, for any cause that existed previous to his appointment or that has arisen since his appointment, or that he is guilty of malfeasance in office, the court shall certify the same to the Governor of the Commonwealth, who shall declare the office of Inspector for the district vacant and proceed, in compliance with the provisions of this act, to appoint a properly qualified person to fill the office.

The cost of said investigation shall be borne by the removed Inspector; but if the allegations in the petition are not sustained the costs shall be paid by the petitioners.

Section 14. The maps and plans of the mines and the records thereof, together with all the papers relating thereto, shall be kept by the Inspector, properly arranged and preserved, in a convenient place in the district for which each Inspector has been appointed, and shall be transferred by him with any other property of the Commonwealth that may be in his possession, to his successor in office.

Section 15. The persons who, at the time this act goes into effect, are acting as Inspectors of mines under the acts hereby repealed shall continue to act in the same manner as if they had been appointed under this act, and until the term for which they were appointed has expired.

Article III.

Surveys, Maps and Plans.

Section 1. The owner, operator or superintendent of every coal mine or colliery shall make, or cause to be made, an accurate map or plan of the workings or excavations of such coal mine or colliery, on a scale of one hundred feet to the inch, which map or plan shall exhibit the workings or excavations in each and every seam of coal and the tunnels and passages connecting with such workings or excavations. It shall state in degrees the general inclination of the

strata with any material deflection therein in said workings or excavations, and shall also state the tidal elevations of the bottom of each and every shaft, slope, tunnel and gangway, and of any other point in the mine or on the surface where such elevation shall be deemed necessary by the Inspector. The map or plan shall show the number of the last survey station and date of each survey on the gangways or the most advanced workings. It shall also accurately show the boundary lines of the lands of the said coal mine or colliery and the proximity of the workings thereto, and in case any mine contains any water dammed up in any part thereof, it shall be the duty of the owner, operator or superintendent to cause the true location of the said dam to be accurately marked on said map or plan, together with the tidal elevation, inclination of strata and area of said workings containing water, and whenever any workings or excavations is approaching the workings where such dam or water is contained or situated, the owner, operator or superintendent shall notify the Inspector of the same without delay.

A true copy of which map or plan the said owner, operator or superintendent shall deposit with the Inspector of mines for the district in which the said coal mine or colliery is situated, showing the workings of each seam, if so desired by the Inspector, on a separate sheet of tracing muslin. One copy of the said map or plan shall be kept at the colliery.

Section 2. The said owner, operator or superintendent shall, as often as once in every six months place, or cause to be placed, on the said Inspector's map or plan of said coal mine or colliery, the plan of the extensions made in such coal mine or colliery during the preceding six months. The said extensions shall be placed on the Inspector's map and the map returned to the Inspector within two months from the date of the last survey.

Section 3. When any coal mine or colliery is worked out preparatory to being abandoned, or when any lift thereof is about to be abandoned, the owner, operator or superintendent of such coal mine or colliery shall have the maps or plans thereof extended to include all excavations, as far as practicable, and such portions thereof as have been worked to the boundary lines of adjoining properties; or any part or parts of the workings of which is intended to be allowed to fill with water, must be surveyed in duplicate and such surveys must practically agree, and certified copies be filed with the Inspector of the district in which the mines are situated.

Section 4. Whenever the owner, operator or superintendent of any coal mine or colliery shall neglect or refuse, or from any cause not satisfactory to the Inspector, shall fail, for a period of three months, to furnish to the Inspector the map or plan of said colliery or of the

extensions thereto, as provided for in this act, the Inspector is hereby authorized to cause an accurate map or plan of such coal mine or colliery to be made at the expense of the owner thereof, which cost shall be recoverable from said owner as other debts are by law recoverable.

Section 5. If the Inspector finds or has reason to believe that any map or plan of any coal mine or colliery, furnished under the provisions of this act, is materially inaccurate, it shall be his duty to make application to the court of common pleas of the county in which such colliery is situate for an order to have an accurate map or plan of said colliery prepared, and if such survey shall prove that the map furnished was materially inaccurate or imperfect, such owner, operator or superintendent shall be liable for the expense incurred in making the same.

Section 6. If it shall be found that the map or plan furnished by the owner, operator or superintendent was not materially inaccurate or imperfect, the Commonwealth shall be held liable for the expense incurred in making such test survey.

Section 7. If it shall be shown that the said owner, operator or superintendent has knowingly or designedly caused or allowed such map or plan, when furnished, to be incorrect or false, such owner, operator or superintendent thus offending, shall be guilty of a misdemeanor and upon conviction thereof, shall be punished by a fine not exceeding five hundred dollars or imprisonment not exceeding three months, at the discretion of the court.

Section 8. The maps or plans of the several coal mines or collieries in each district and which are placed in the custody of the Inspector, shall be the property of the Commonwealth, and shall remain in the care of the Inspector of the district in which the said collieries are situated to be transferred by him to his successor in office; and in no case shall a copy of the same be made without the consent of the owner, operator or superintendent.

Section 9. The Inspector's map or plan of any particular colliery shall be open for inspection, in the presence of the Inspector, to any miner or miners of that colliery, whenever said miner or miners shall have cause to fear that his or their working place or places is becoming dangerous, by reason of its proximity to other workings which may be supposed to contain water or dangerous gases. Said map shall also be open to the inspection and examination of any citizen interested, during business hours.

Section 10. It shall be obligatory on the owners of adjoining coal properties to leave, or cause to be left, a pillar of coal in each seam or vein of coal worked by them, along the line of adjoining property, of such width, that taken in connection with the pillar to be left by

the adjoining property owner, will be a sufficient barrier for the safety of the employes of either mine in case the other should be abandoned and allowed to fill with water; such width of pillar to be determined by the engineers of the adjoining property owners together with the Inspector of the district in which the mine is situated, and the surveys of the face of the workings along such pillar shall be made in duplicate and must practically agree. A copy of such duplicate surveys, certified to, must be filed with the owners of the adjoining properties and with the Inspector of the district in which the mine or property is situated.

Article IV.

Shafts, Slopes, Openings and Outlets.

Section 1. It shall not be lawful for the owner, operator or superintendent of any mine to employ any person or persons in such mine or permit any person or persons to be in such mine for the purpose of working therein, unless they are in connection with every seam or stratum of coal; and from every lift thereof, worked in such mine, not less than two openings or outlets, separated by a strata of not less than sixty (60) feet in breadth underground, and one hundred and fifty (150) feet in breadth at the surface, at which openings or outlets safe and distinct means of ingress and egress are at all times available for the person or persons employed in the said mine, but it shall not be necessary for the said two openings to belong to the same mine if the persons employed therein have safe, ready and available means of ingress and egress by not less than two openings. This section shall not apply to opening a new mine or to opening any new lift of a mine while being worked for the purpose of making communication between said two outlets, so long as not more than twenty persons are employed at any one time in such mine or new lift of a mine, neither shall it apply to any mine or part of a mine in which the second outlet has been rendered unavailable by reason of the final robbing of pillars previous to abandonment, so long as not more than twenty persons are employed therein at any one time. The cage or cages and other means of egress shall, at all times, be available for the persons employed where there is no second outlet.

Section 2. The owner, operator or superintendent of any mine to which there is only one shaft, slope or outlet may petition the court of common pleas in and for the county in which such mine is situated, which said court is hereby empowered to act in the premises, setting forth that, in consequence of intervening lands between the working of his mine and the most practicable point, or the only practicable point, as the case may be, at which to make or bring to the surface from the working of his mine, he is unable to

make an additional shaft, slope or outlet in accordance with the requirements of this act, whereupon the court may make an order of reference and appoint three disinterested persons, residents of the county, viewers, one or more of whom shall be a practical mining engineer, all of whom, after being sworn to a faithful discharge of their duties, shall view and examine the premises and determine as to whether the owner should have the privilege of making an additional outlet through or upon any intervening lands, as the case may require, and report in writing to the court, which report shall be entered and filed of record. If the finding of the viewers, or any two of them, is in favor of the owner of such coal mine or colliery, he may make an additional shaft, slope or outlet under, through or upon intervening lands, as may be determined upon and provided for by the award. If the finding of the viewers is against the owner, or if no award be made by reason of any default or neglect on the part of the owner, he shall be bound to comply with the provisions of this act in the same manner as if this section had not been enacted. In case the said owner, operator or superintendent desires to, and claims that he ought to make an additional opening under, through or upon any adjoining or intervening lands, to meet the requirements of this act, for the ingress and egress of the men employed in his or their mine, he or they shall make a statement of the facts in the petition, with a survey, setting forth the point of commencement and the point of termination of the proposed outlet which he or they, their engineers, agents or employes may enter upon said intervening lands and survey and mark, as he or they shall find it proper to adopt for such additional outlet, doing as little damage as possible to the property explored; and the viewers shall state in their report what damage will be sustained by the owner or owners of the intervening lands by the opening, constructing and using of the outlet, and if the report is not appealed from it, shall be confirmed or rejected by said court as to right and justice shall appertain, and any further and all proceedings in relation thereto shall be in conformity with like proceedings as in the case of a lateral railroad across or under intervening lands, under the act in relation to lateral railroads, approved the fifth day of May, Anno Domini one thousand eight hundred and thirty-two, and the supplements thereto, so far as the provisions of the same are applicable hereto; and the notices to the owner of intervening lands, of the intention to apply for the privilege of making an outlet and meeting of the viewers shall be given, and the costs of the case shall be paid as provided in the said act of fifth day of May, Anno Domini one thousand eight hundred and thirty-two, and the supplements thereto.

Section 3. The escapements, shafts or slopes shall be fitted with

safe and available appliances by which the persons employed in the mine may readily escape in case an accident occurs deranging the hoisting machinery at the main outlets.

Section 4. In slopes where the angle of inclination is fifteen degrees or less there must be provided a separate traveling way, which shall be maintained in a safe condition for travel and kept free from steam and dangerous gases.

Section 5. No inflammable structure, other than a frame to sustain pulleys or sheaves, shall be erected over the entrance of any opening connecting the surface with the underground workings of any mine, and no "breaker" or other inflammable structure for the preparation or storage of coal shall be erected nearer than two hundred (200) feet to any such opening, but this act shall not be construed to prohibit the erection of a fan drift for the purpose of ventilation, or of a trestle for the transportation of cars from any slope to such breaker or structure, neither shall it apply to any shaft or slope until the work of development and shipment of coal has commenced: *Provided,* That this section shall not apply to breakers that are now erected.

Section 6. The top of each shaft and also of each slope, if dangerous, or any intermediate lift thereof, shall be securely fenced off by railing or by vertical or flat gates.

Section 7. Every abandoned slope, shaft, air-hole and drift shall be properly fenced around or across its entrance.

Section 8. All underground entrances to any places not in actual course of working or extension shall be properly fenced across the whole width of such entrances, so as to prevent persons from inadvertently entering the same.

Section 9. The owner, operator or superintendent of any coal mine or colliery which is worked by shaft or slope, shall provide and maintain a suitable appliance by or through which conversation can be held by and between persons at the bottom and at the top of the shaft or slope, and also an efficient means of signaling from the bottom of such shaft or slope to the engineer in charge of the hoisting engine.

Section 10. Hand rails and efficient safety catches shall be attached to, and a sufficient cover overhead shall be provided on every cage used for lowering or hoisting persons in any shaft.

Section 11. Wherever practicable, every cage or gun-boat used for lowering or hoisting persons in any slope, shall be provided with a proper protector, so constructed that persons, while on such cage or gun-boat, shall not be struck by anything which may fall or roll down said slope.

Section 12. The main link of the chain connecting the rope to the

cage, gun-boat or car in any shaft or slope, shall be made of the best quality of iron; bridle chains made of the same quality of iron shall be attached to the main link, rope or rope socket from the cross-head of the cage or gun-boat when persons are being lowered or hoisted thereon.

Section 13. The ropes, safety catches, links and chains shall be carefully examined every day they are used, by a competent person delegated for that purpose and any defects therein found, by which life or limb may be endangered, shall be immediately remedied.

Section 14. An efficient brake shall be attached to every drum that is used for lowering or raising persons or material in any mine.

Section 15. Flanges or horns of sufficient dimensions to prevent the rope from slipping off the said drum shall be provided and properly attached to the drum, and all machines used for lowering or hoisting persons in mines shall be provided with an indicator to show the position of the cage, car or gun-boat in the shaft or slope.

Section 16. Over all shafts which are being sunk or shall hereafter be sunk, a safe and substantial structure shall be erected to sustain the sheaves or pulleys, at a height of not less than twenty (20) feet above the tipping-place, and the top of such shaft shall be arranged in such manner that no material can fall into the shaft while the bucket is being emptied.

Section 17. The said structure shall be erected as soon as a substantial foundation is obtained, and in no case shall a shaft be sunk to a depth of more than fifty (50) feet without such structure.

Section 18. If provision is made to land the bucket upon truck, the said truck shall be constructed in such manner that material cannot fall into the shaft.

Section 19. All rock and coal from shafts as they are being sunk, shall not be raised except in a bucket or on a cage, and such bucket or cage must be connected to the rope or chain by a safety hook, clevis or other safe attachment.

Section 20. Such shafts shall be provided with guides and guide attachments applied in such manner as to prevent the bucket from swinging while descending or ascending therein, and such guides and guide attachments shall be maintained at a distance of not more than seventy-five (75) feet from the bottom of such shaft, until its sinking shall have been completed, but this section shall not apply to shafts one hundred (100) feet or less in depth.

Section 21. Where the strata are not safe every shaft shall be securely cased, lined or otherwise made secure.

Section 22. The following rules shall be observed, as far as practicable, in every shaft to which this act applies.

First. After each and every blast the chargeman must see that all

loose material is swept down from the timbers before the workmen descend to their work.

Second. After a suspension of work, and also after firing a blast in a shaft where explosive gases are evolved, the person in charge must have the said shaft examined and tested with a safety lamp before the workmen are allowed to descend.

Third. Not more than four persons shall be lowered or hoisted in any shaft on a bucket at the same time, and no person shall ride on a loaded bucket.

Fourth. Whenever persons are employed on platforms in shafts the person in charge must see that the said platforms are properly and safely constructed.

Fifth. While shafts are being sunk all blasts therein must be exploded by an electric battery.

Sixth. Every person who fails to comply with or who violates the provisions of this article shall be guilty of an offense against this act.

Article V.

Boilers and Connections, Machinery, &c.

Section 1. All boilers used for generating steam in and about mines and collieries shall be kept in good order, and the owner, operator or superintendent shall have them examined and inspected by a qualified person as often as once in six months, and oftener if needed. The result of such examination, under oath, shall be certified in writing to the Inspector for the district within thirty (30) days thereafter.

Section 2. It shall not be lawful to place any boiler or boilers, for the purpose of generating steam, under nor nearer than one hundred (100) feet to any coal breaker or other structure in which persons are employed in the preparation of coal: *Provided,* That this section shall not apply to boilers or breakers already erected.

Section 3. Each nest of boilers shall be provided with a safety valve of sufficient area for the steam to escape and with weights or springs properly adjusted.

Section 4. Every boiler house shall be provided with a steam gauge properly connected with the boilers, to indicate the steam pressure, and another steam gauge shall be attached to the steam pipe in the engine house and placed in such position that the engineer or fireman can readily examine them and see what pressure is carried. Such steam gauges shall be kept in good order, tested and adjusted as often as once in every six months and their condition reported to the Inspector in the same manner as the report of boiler inspection.

Section 5. All machinery used in or about the mines and collieries

and especially in breakers, such as engines, rollers, wheels, screens, shafting and belting shall be protected by covering or railing so as to prevent persons from inadvertently walking against or falling upon the same. The sides of stairs trestles and dangerous plank walks in and around the collieries shall be provided with hand and guard railing to prevent persons from falling over their sides. This section shall not forbid the temporary removal of a fence, guard rail or covering for the purpose of repairs or other operations, if proper precautions are used, and the fence, guard rail or covering is replaced immediately thereafter.

Section 6. A sober and competent person, not under eighteen (18) years of age, shall be engaged to run the breaker engine and he shall attend to said engine while the machinery is in motion.

Section 7. A signal apparatus shall be established at important points in every breaker so that in case of an accident the engineer can be promptly notified to stop the machinery.

Section 8. No person under fifteen (15) years of age shall be appointed to oil the machinery, and no person shall oil dangerous parts of such machinery while it is in motion.

Section 9. No person shall play with, loiter around or interfere with any machinery in or about any mine or colliery.

Section 10. Failure to comply with the provisions of this article shall be deemed an offense against this act.

Article VI.

Wash Houses.

Section 1. It shall be the duty of the owner, operator or superintendent of each mine or colliery, at the request in writing of twenty or more men employed in any of the mines, to provide a suitable building, not an engine or boiler house, which shall be convenient to the principal entrance of such mine, for the use of the persons employed therein for the purpose of washing themselves and changing their clothes when entering the mine and returning therefrom. The said building shall be maintained in good order, be properly lighted and heated, and supplied with pure cold and warm water, and shall be provided with facilities for persons to wash. If any person or persons shall neglect or fail to comply with the provisions of this article, or maliciously injure or destroy, or cause to be injured or destroyed, the said building, or any part thereof, or any of the appliances or fittings used for supplying light, heat and water therein, or doing any act tending to the injury or destruction thereof, he or they shall be deemed guilty of an offense against this act.

Article VII.

Ambulances and Stretchers.

Section 1. The owner, operator or superintendent of every mine or colliery, except as hereinafter provided, shall provide and keep at such mine or colliery an ambulance and also at least two (2) stretchers, for the purpose of conveying to their places of abode, any person or persons who may be injured while in the discharge of his or their work at such mine or colliery.

Section 2. The said ambulance shall be constructed upon good, substantial and easy springs. It shall be covered and closed and shall have windows on the sides or ends. It shall be of sufficient size to convey at least two (2) injured persons with two (2) attendants at one time, and shall be provided with spring mattresses or other comfortable bedding to be placed on roller frames, together with sufficient covering and protection and convenient movement of the injured. It shall also be provided with seats for the attendants. The stretchers shall be constructed of such material and in such manner as to afford the greatest ease and comfort in the carriage of the injured person.

Section 3. Whenever any person or persons employed in or about a mine or colliery shall receive such injury by accident or otherwise, while so employed, as would render him or them unable to walk to his or their place of abode, the owner, operator or superintendent of such mine or colliery shall immediately cause such person or persons to be removed to his or their place of abode or to an hospital as the case may require.

Section 4. It is provided, however, that the owner, operator or superintendent of any mine or colliery shall be excepted from the requirement of an ambulance, as aforesaid, if the places of abode of all the workmen at such mine or colliery be within a radius of a half mile from the principal entrance to such mine.

Section 5. It is provided further, that where two or more mines or collieries are located within one mile of each other, or the ambulance is located within one mile of each colliery, but one ambulance, as aforesaid, shall be required, if the said mines or collieries have ready and quick means of communication, one with the other, by telegraph or telephone.

Section 6. An ambulance, as aforesaid, shall not be required at any mine or colliery at which less than twenty (20) persons are employed.

Section 7. In case the distance from any mine or colliery to the place of abode of the person injured, is such as to permit his conveyance to his home or to an hospital more quickly and conveniently

by railway, such mode of conveyance shall be permitted, but in such case the conveyance must be under cover and the comfort of the injured person must be provided for.

Article VIII.

Certified Mine Foremen.

Section 1. It shall not be lawful, neither shall it be permitted, for any person or persons to act as mine foreman or assistant mine foreman of any coal mines or colliery, unless they are registered as a holder of a certificate of qualification or service under this act.

Section 2. Certificates of qualification to mine foreman and assistant mine foremen shall be granted by the Secretary of Internal Affairs to every applicant who may be reported by the examiners, as hereinafter provided, as having passed a satisfactory examination and as having given satisfactory evidence of at least five years' practical experience as a miner, and of good conduct, capability and sobriety.

The certificate shall be in manner and form as shall be prescribed by the Secretary of Internal Affairs, and a record of all certificates issued shall be kept in his department.

Section 3. For the purpose of examination of candidates for such certificates, a board of examiners shall be appointed in each of the inspection districts provided for by this act. The said board shall consist of the district Inspector of mines, two (2) practical miners and one owner, operator or superintendent of a mine. The said Inspector shall act ex-officio, and the said engineer and owner, operator or superintendent shall be appointed in like manner and at the same time as the boards of examiners for candidates for mine Inspectorship under this act are now appointed. The said board shall act as such for the period of one year from the date of their appointment. Meetings of the board may be held at any time, and they may make such rules and conduct such examinations as in their judgment may seem proper for the purpose of such examinations. The said board shall report their action to the Secretary of Internal Affairs, and at least three (3) of the members thereof shall certify to the qualification of each candidate who has passed such examination. The traveling expenses of the members of such board to and from their place of meeting, together with the sum of five dollars per day each to the said two (2) practical miners and owner, operator or superintendent, members of each board, for each day they are actually engaged therein not exceeding ten (10) days in all, during the year, shall be paid by the Commonwealth on an order of the Auditor General drawn on the State Treasurer upon the certificate of the mine Inspector, member of such board.

Section 4. Certificates of qualification to mine foreman and assistant mine foreman shall be granted by the Secretary of Internal Affairs to every applicant who may be reported by the examiners, as heretofore provided, as having passed a satisfactory examination and as having given satisfactory evidence of at least five (5) years' practical experience as a miner, and of good conduct, capability and sobriety. The certificate shall be in manner and form as shall be prescribed by the Secretary of Internal Affairs, and a record of all certificates issued shall be kept in the department. Certificates of qualification and certificate of service shall contain the full name, age and place of birth of the applicant, as also the length and nature of his previous service in or about the mines.

Section 5. Before certificate as aforesaid shall be granted applicants for same shall pay to the Secretary of Internal Affairs the following fee, namely:

For examination, one dollar; for registration of certificate, one dollar; for certificate, one dollar. All fees so received shall be covered into the treasury of the Commonwealth.

Section 6. No mines shall be operated for a longer period than thirty days without the supervision of a mine foreman. In case any mine is worked a longer period than thirty (30) days without such certified mine foreman, the owner, operator or superintendent thereof shall be subject to a penalty of twenty dollars per day for each day over the said thirty (30) days during which the said mine is operated.

Section 7. In case of the loss or destruction of a certificate the Secretary of Internal Affairs may supply a copy thereof to the person losing the same upon the payment of the sum of fifty (50) cents: *Provided*, It shall be shown to the satisfaction of the Secretary that the loss has actually occurred.

Section 8. If any person or persons shall forge or counterfeit a certificate or knowingly make or cause to be made any false statement in any certificate under this act, or in any official copy of same, or shall urge others to do so, or shall utter or use any such forged or false certificate, or unofficial copy thereof, or shall make, give, utter, produce or make use of any false declaration, representation or statement in any such certificate or copy thereof, or any document containing the same, he or they shall be guilty of a misdemeanor, and upon conviction thereof, shall be fined two hundred dollars, or imprisoned for a term not exceeding one (1) year, or both, at the discretion of the court trying the case.

Section 9. And no person shall be permitted to act as fire boss in any coal mine or colliery, except he has had five (5) years' practical experience in mines as a miner, three (3) of which he shall have as a

miner wherein noxious and explosive gases are evolved, and the said fire boss shall certify to the same before entering upon his duties, before an alderman, justice of the peace or other person authorized to administer oaths, and a copy of said deposition shall be filed with the District Inspector of mines wherein said person is employed.

Article IX.

Employment of Boys and Females.

Section 1. No boy under the age of fourteen (14) years, and no woman or girl of any age, shall be employed or permitted to be in any mine for the purpose of employment therein. Nor shall a boy under the age of twelve years or a woman or girl of any age, be employed or permitted to be in or about the outside structures or workings of a colliery for the purpose of employment, but it is provided, however, that this prohibition shall not affect the employment of a boy or female of suitable age in an office or in the performance of clerical work at a colliery.

Section 2. When an employer is in doubt as to the age of any boy or youth applying for employment in or about a mine or colliery, he shall demand and receive proof of the said lawful employment age of such boy or youth, by certificate from the parent or guardian, before said boy or youth shall be employed.

Section 3. If any person or persons contravene or fail to comply with the provisions of this act in respect to the employment of boys, young male persons or females, or if he or they shall connive with or permit others to contravene or fail to comply with said provisions, or if a parent or guardian of a boy or young male person make or give a false certificate of the age of such boy or young male person, or knowingly do or perform any other act for the purpose of securing employment for a boy or young male person under the lawful employment age and in contravention of the provisions of this act, he or they shall be guilty of an offense against this act.

Article X.

Ventilation.

Section 1. The owner, operator or superintendent of every mine shall provide and maintain a constant and adequate supply of pure air for the same, as hereinafter provided.

Section 2. It shall not be lawful to use a furnace for the purpose of ventilating any mine wherein explosive gases are generated.

Section 3. The minimum quantity of air thus produced, shall not be less than two hundred (200) cubic feet per minute for each and

every person employed in any mine, and as much more as the circumstances may require.

Section 4. The ventilating currents shall be conducted and circulated to and along the face of each and every working place throughout the entire mine, in sufficient quantities to dilute, render harmless and sweep away smoke and noxious or dangerous gases, to such an extent that all working places and traveling roads shall be in a safe and fit state to work and travel therein.

Section 5. All worked out or abandoned parts of a mine in operation, so far as practicable, shall be kept free of dangerous bodies of gases or water, and if found impracticable to keep the entire mine free from an accumulation of gases or water, the mine Inspector must be immediately notified.

Section 6. Every mine employing more than seventy-five (75) persons must be divided into two or more districts. Each district shall be provided with a separate split of pure air and the ventilation shall be so arranged, that not more than seventy-five persons shall be employed at the same time in any one current or split of air.

The inlet and return air passages for any particular district must be separated by a pillar of coal or stone, if the thickness and dip of the vein will permit, except where it is necessary to cut through said dividing pillar for the purposes of ventilation, traffic or drainage.

Section 7. All air passages shall be of sufficient area to allow the free passage of not less than two hundred (200) cubic feet of air per minute for every person working therein; and in no case, in mines generating explosive gases, shall the velocity exceed four hundred and fifty (450) lineal feet per minute, in any opening through which the air currents pass, if gauze safety lamps are used, except in the main inlet or outlet air ways.

Section 8. All cross-cuts connecting the main inlet and outlet air passages of every district, when it becomes necessary to close them permanently, shall be substantially closed with brick or other suitable building material, laid in mortar or cement whenever practicable, but in no case shall said air stoppings be constructed of plank except for temporary purposes.

Section 9. All doors used in assisting or in any way affecting the ventilation shall be so hung and adjusted that they will close automatically.

Section 10. All main doors shall have an attendant whose constant duty it shall be to open them for transportation and travel and prevent them from standing open longer than is necessary for persons or cars to pass through.

Section 11. All main doors shall be so placed that when one door is open, another, which has the same effect upon the same current,

shall be and remain closed and thus prevent any temporary stoppage of the air current.

Section 12. An extra main door shall be so placed and kept standing open, so as to be out of reach of accident, and so fixed that it can be at once closed in the event of an accident to the doors in use.

Section 13. The frame work of such main doors shall be substantially secured in stone or brick, laid in mortar or cement unless otherwise permitted in writing by the Inspector.

Section 14. All permanent air bridges shall be substantially built of such material and of such strength as the circumstances may require.

Section 15. The quantities of air in circulation shall be ascertained with an anemometer or other efficient instrument; such measurements shall be made by the inside foreman or his assistant once every week at the inlet and outlets airways, also at or near the face of each gangway and at the nearest cross-heading to the face of each gangway and at the nearest cross-heading to the face of the inside and outside chamber or breast where men are employed, and the headings shall not be driven more than sixty (60) feet from the face of each chamber or breast and shall be entered in the colliery report book.

Section 16. A report of these air measurements shall be sent to the Inspector before the twelfth day of each month, for the preceding month, together with a statement of the number of persons employed in each district.

Section 17. All ventilators used at mines shall be provided with recording instruments by which the speed of the ventilators or the ventilating pressure shall be registered for each hour, and such data shall be preserved at the colliery for future reference, for a period of three months.

Section 18. Any person or persons who shall neglect or fail to comply with the provisions of this article, or who shall make any false report in regard to air measurements, shall be guilty of an offense against this act.

Article XI.

Props and Timbers.

Section 1. It shall be the duty of the owner, operator, superintendent or mine foreman of every mine to furnish to the miners all props, ties, rails and timbers necessary for the safe mining of coal and for the protection of the lives of the workmen. Such props, ties, rails and timbers shall be suitably prepared and shall be delivered to the workmen as near to their working places as they can be conveyed in ordinary mine cars, free of charge.

Section 2. Every workman in want of props, ties, rails or timbers shall notify the mine foreman or his assistant of the fact at least one day in advance, giving the length of the props or timber required; and in case of danger from loose roof or sides, he shall not continue to cut or load coal until the said props and timber have been properly furnished and the place made secure.

Section 3. A failure to comply with the provisions of this article shall be deemed an offense against this act, and shall be taken to be negligence *per se* on the part of the owner, operator, superintendent or mine foreman, as the case may be, of such mine, in action for the recovery of damages for accidents resulting from the insufficient propping of such mine, through failure to furnish the necessary props or timbers.

Article XII.

General Rules.

The following general rules shall be observed in every mine to which this act applies.

Rule 1. The owner, operator or superintendent of a mine or colliery shall use every precaution to ensure the safety of the workmen in all cases, whether provided for in this act or not, and he shall place the underground workings thereof, and all that is related to the same, under the charge and daily supervision of a competent person who shall be called "mine foreman."

Rule 2. Whenever a mine foreman cannot personally carry out the provisions of this act so far as they pertain to him, the owner, operator or superintendent shall authorize him to employ a sufficient number of competent persons to act as his assistants, who shall be subject to his orders.

Rule 3. The mine foreman shall have charge of all matters pertaining to ventilation, and the speed of the ventilators shall be particularly under his charge and direction; and any superintendent who shall cause the mine foreman to disregard the provisions of this act shall be amenable in the same manner as the mine foreman.

Rule 4. All accessible parts of an abandoned portion of a mine in which explosive gases have been found, shall be carefully examined by the mine foreman or his assistants at least once a week, and all danger found existing therein shall be immediately removed. A report of said examination shall be recorded in a book kept at the colliery for that purpose and signed by the person making the same.

Rule 5. In mines generating explosive gases, the mine foreman or his assistant shall make a careful examination every morning of all working places and traveling roads and all other places which might

endanger the safety of the workmen, before the workmen shall enter the mine, and such examination shall be made with a safety lamp within three (3) hours at most, before time for commencing work, and a workman shall not enter the mine or his working place until the said mine or part thereof and working place are reported to be safe. Every report shall be recorded without delay in a book which shall be kept at the colliery for the purpose and shall be signed by the person making the examination.

Rule 6. The person who makes said examination shall establish proof of the same by marking plainly the date thereof at the face of each working place and all other places examined.

Rule 7. A station or stations shall be established at the entrance to each mine or different parts of each mine, as the case may require, and a workman shall not pass beyond any such station until the mine or part of the mine beyond the same has been inspected and reported to be safe. It shall be the duty of the fire boss to remain at the danger station until relieved by some person authorized by himself or the mine foreman, who shall stand guard until said mine or part of mine shall be reported safe, and he shall not let any person pass without permission from the fire boss.

Rule 8. If at any time it is found by the person for the time being in charge of the mine or any part thereof, that by reason of noxious gases prevailing in such mine or such part thereof, or of any cause whatever the mine or the said part is dangerous, every precaution shall be used to ensure the safety of the workmen; and every workman, except such persons as may be required to remove the danger, shall be withdrawn from the mine, or such part thereof as is so found dangerous, until the said mine or said part thereof is examined by a competent person and reported by him to be safe.

Rule 9. In every working approaching any place where there is likely to be accumulation of explosive gases, or in any working in which danger is imminent from explosive gases, no light or fire other than a locked safety lamp shall be allowed or used. Whenever safety lamps are required in any mine they shall be the property of the owner of said mine, and a competent person, who shall be appointed for the purpose, shall examine every safety lamp immediately before it is taken into the workings for use, and ascertain it to be clean, safe and securely locked, and safety lamps shall not be used until they have been so examined and found safe, clean and securely locked, unless permission be first given by the mine foreman to have the lamps used unlocked.

Rule 10. No one, except a duly authorized person, shall have in his possession a key or any other contrivance for the purpose of unlocking any safety lamp in any mine where locked lamps are used

No lucifer matches or any other apparatus for striking light shall be taken into said mine or parts thereof.

Rule 11. No blast shall be fired in any mine where locked safety lamps are used except by permission of the mine foreman or his assistants, and before a blast is fired, the person in charge must examine the place and adjoining places and satisfy himself that it is safe to fire such blast before such permission is given.

Rule 12. The mine foreman or his assistant shall visit and examine every working place in the mine at least once every alternate day, while the men of such place are or should be at work, and shall direct that each and every working place is properly secured by props or timber, and that safety in all respects is assured by directing that all loose coal or rock shall be pulled down or secured, and that no person shall be permitted to work in an unsafe place unless it be for the purpose of making it secure.

Rule 13. The mine foreman, or some other competent person or persons to be designated by him, shall examine at least once every day all slopes, shafts, main roads, traveling ways, signal apparatus, pulleys and timbering and see that they are in safe and efficient working condition.

Rule 14. Any person having charge of a working place in any mine shall keep the roof and sides thereof properly secured by timber or otherwise so as to prevent such roof and sides from falling, and he shall not do any work or permit any work to be done under loose or dangerous material except for the purpose of securing the same.

Rule 15. Whenever a place is likely to contain a dangerous accumulation of water, the working approaching such place shall not exceed twelve (12) feet in width, and there shall be constantly kept, at a distance of not less than twenty (20) feet in advance, at least one (1) bore hole near the center of the working and sufficient flank bore holes on each side.

Rule 16. No person shall ride upon or against any loaded car, cage or gunboat in any shaft, slope or plane in or about a mine or colliery.

Rule 17. Not more than ten (10) persons shall be hoisted or lowered at any one time in any shaft or slope, and whenever five persons shall arrive at the bottom of any shaft or slope in which persons are regularly hoisted or lowered they shall be furnished with an empty car or cage and be hoisted, except however, in mines where there is provided a traveling way having an average pitch of fifteen (15) degrees or less and not more than one thousand (1,000) feet in length. This, however, shall not prohibit the hoisting or lowering of twenty (20) persons at one time on slopes where two (2) or more loaded cars are regularly hoisted: *Provided*, That not less than thirty (30) work-

men working therein, make such request in writing, to the Inspector of the district, and if, in his judgment, the hoisting appliances in every respect are of sufficient strength, he may comply with the request of the workmen:

Provided, That in any coal mine or colliery where the hoisting appliances are not of sufficient strength to hoist or lower the number of persons named, he shall have the power to reduce the number of persons to be hoisted or lowered.

Rule 18. An engineer placed in charge of an engine whereby persons are hoisted or lowered in any mine, shall be a sober and competent person of not less than twenty-one (21) years of age.

Rule 19. Every engineer shall work his engine slowly and with great care when any person is being lowered or hoisted in a shaft or slope and no one shall interfere with or intimidate him while in the discharge of his duties.

Rule 20. An engineer who has charge of the hoisting machinery by which persons are lowered or hoisted in a mine, shall be in constant attendance for that purpose during the whole time any person or persons are below ground, and he shall not allow any person or persons, except such as may be deputed by the owner, operator or superintendent, to handle or meddle with the engine under his charge or any part of its machinery.

Rule 21. When any person is about to descend or ascend a shaft or slope, the headman or footman, as the case may be, shall inform the engineer by signal or otherwise of the fact, and the engineer shall return a signal before moving or starting the engine. In the absence of a headman or footman the person or persons about to descend or ascend shall give and receive the signals in the same manner.

Rule 22. The owner, operator or superintendent of a colliery shall place a competent person to be called "outside foreman," in charge of the breaker and the outside work of such colliery and who shall direct, and as far as practicable, see that the provisions of this act are complied with in respect to the breaker, outside machinery, ropes, cages and all other things pertaining to the outside work, unless otherwise provided for in this act.

Rule 23. In all coal breakers where the coal dust is so dense as to be injurious to the health of persons employed therein, the owner, operator or superintendent of said breaker shall, upon the request of the Inspector, immediately adopt measures for the removal of the dust, as far as practicable.

Rule 24. Any miner or other workman who shall discover anything wrong with the ventilating current or with the condition of the roof, side, timber or roadway, or with any other part of the

mine in general, such as would lead him to suspect danger to himself or his fellow workmen or to the property of his employer, shall immediately report the same to the mine foreman or other person, for the time being in charge of that portion of the mine.

Rule 25. Any person or persons who shall knowingly or wilfully damage, or without proper authority, remove or render useless any fencing, means of signaling, apparatus, instrument or machine, or shall throw open or obstruct any air way, or open a ventilating door and not have the same closed, or enter a place in or about a mine against caution, or carry fire, open lights or matches in places where safety lamps are used, or handle without proper authority, or disturb any machinery or cars, or do any other act or thing whereby the lives or health of persons or the security of the property in or about a mine or colliery are endangered, shall be guilty of an offense against this act.

Rule 26. Gunpowder or any other explosive shall not be stored in a mine, and a workman shall not have at any time in any one place, more than one keg or box containing twenty-five (25) pounds, unless more is necessary for a person to accomplish one day's work.

Rule 27 Every person who has gunpowder or other explosive in a mine, shall keep it in a wooden or metallic box securely locked, and such box shall be kept at least ten (10) feet from the tracks in all cases where room at such a distance is available.

Rule 28. Whenever a workman shall open a box containing explosive or while in any manner handling the same, he shall first place his lamp not less than five (5) feet from such explosive and in such a position that the air current cannot convey sparks to it, and a workman shall not approach nearer than five (5) feet to an open box containing powder, with a lamp, lighted pipe or any other thing containing fire.

Rule 29. When high explosives other than gunpowder are used in any mine, the manner of storing, keeping, moving, charging and firing or in any manner using such explosives, shall be in accordance with special rules as furnished by the manufacturers of the same. The said rules shall be endorsed with his or their official signature and shall be approved by the owner, operator or superintendent of the mine in which such explosives are used.

Rule 30. In charging holes for blasting in slate or rock in any mine, no iron or steel-pointed needle shall be used, and a tight cartridge shall not be rammed into a hole in coal, slate or rock with an iron or steel tamping bar, unless the end of the tamping bar is tipped with at least six (6) inches of copper or other soft metal.

Rule 31. A charge of powder or any other explosive in slate or rock which has missed fire shall not be withdrawn or the hole reopened.

Rule 32. A miner or other person who is about to explode a blast by the use of patent or other squibs or matches, shall not shorten the match, nor saturate it with mineral oil, nor turn it down when placed in the hole, nor ignite it except at its extreme end, nor do anything tending to shorten the time the match will burn.

Rule 33. When a workman is about to fire a blast he shall be careful to notify all persons who may be in danger therefrom, and shall give sufficient alarm before and after igniting the match so that any person or persons who may be approaching shall be warned of the danger.

Rule 34. Before commencing work and also after the firing of every blast, the miner working a breast or any other place in a mine, shall enter such breast or place to examine and ascertain its condition, and his laborer or assistant shall not go to the face of such breast or place until the miner has examined the same and found it to be safe.

Rule 35. No person shall be employed to blast coal or rock unless the mine foreman is satisfied that such person is qualified, by experience and judgment, to perform the work with ordinary safety.

Rule 36. A person who is not a practical miner shall not charge or fire a blast in the absence of an experienced miner, unless he has given satisfactory evidence of his ability to do so with safety, and has obtained permission from the mine foreman or person in charge.

Rule 37. An accumulation of gas in mines shall not be removed by brushing where it is practicable to remove it by brattice.

Rule 38. When gases ignited by blast or otherwise, the person igniting the same shall immediately extinguish it, if possible, and notify the mine foreman or his assistant of the fact, and workmen must see that no gas blowers are left burning upon leaving their working places.

Rule 39. Every fireman in charge of a boiler or boilers for the generation of steam, shall keep a constant watch of the same. He shall see that the steam presssure does not any time exceed the limit allowed by the outside foreman or superintendent. He shall frequently try the safety valve, and shall not increase the weight on the same. He shall maintain a proper depth of water in each boiler, and if anything should happen to prevent this, he shall report the same without delay to the foreman, for the time being in charge, and take such other action as may under the particular circumstances be necessary for the protection of life and preservation of property.

Rule 40. At every shaft or slope in which provision is made in this act for lowering and hoisting persons, a headman and footman shall be designated by the superintendent or foreman to be at their proper places from the time that persons begin to descend, until all

the persons who may be at the bottom of said shaft or slope when quitting work shall be hoisted. Such headman and footman shall personally attend to the signals and see that the provisions of this act, in respect to lowering and hoisting persons in shafts or slopes, shall be complied with.

Rule 41. No person, except the man giving the signal, shall jump on a car, cage or gunboat after the signal to start has been given, and if any person should enter a car, cage or gunboat in excess of the lawful number the headman or footman shall notify him of the fact and request him to get off, which request must be immediately complied with. Any violation of this rule must be reported promptly to the mine foreman.

Rule 42. An empty trip shall be hoisted in any shaft or slope where the engine has been standing idle for an hour or more, before men are hoisted or lowered in said shafts or slopes, and no person or persons shall ascend any shaft or slope when working on the night turn, until one trip shall first be hoisted therein.

Rule 43. Every passage-way used by persons in any mines and also used for transportation of coal or other material, shall be made of sufficient width to permit persons to pass moving cars with safety, but if found impracticable to make any passage-way of sufficient width, then holes of ample dimensions, and not more than one hundred and fifty (150) feet apart, shall be made on one side of said passage-way. The said passage-way and safety holes shall be kept free from obstructions and shall be well drained; the roof and sides of the same shall be made secure.

Rule 44. When locomotives are used in any mine their speed shall not exceed six (6) miles per hour, and an efficient alarm shall be provided and attached to the front end of every train of cars pushed by a locomotive in any mine or part of a mine.

Rule 45. Locomotives propelled by steam, if using fire, shall not be used in any passage-way which is also used as an in-take air-way to any mine or part of a mine where persons are employed, unless there be a sufficient quantity of air circulating therein to maintain a healthy atmosphere.

Rule 46. No person shall couple or uncouple loaded or empty cars while the same are in motion: *Provided however*, That this shall not apply to the top or bottom men of slopes, planes or shafts.

Rule 47. When cars are run on gravity roads by breaks or sprags, the runner shall only ride on the rear end of the last car, and when said cars are run by sprags, a space of not less than two (2) feet from the body of the car shall be made on one or both sides of the track, wherever it may be necessary for the runner to pass along the side of the moving car or cars, and said space or passage-way shall always be kept free from obstructions.

Rule 48. No miner or laborer shall run cars out of any breast or chamber or on any gravity road unless he is a suitable person, employed by the mine foreman for that particular work; and no person shall be employed by any mine foreman to perform such work, under the age of sixteen (16) years.

Rule 49. Safety holes shall be made at the bottom of all slopes and planes and be kept free from obstruction to enable the footman to escape readily in case of danger.

Rule 50. Safety blocks or some other device for the purpose of preventing cars from falling into a shaft or running away on a slope or plane, shall be placed at or near the head of every shaft, slope or plane, and said safety blocks or other device must be maintained in good working order.

Rule 51. No person shall travel on any gravity train while cars are being hoisted or lowered thereon. Whenever ten (10) persons arrive at the bottom or top of any plane on which it is necessary for men to travel, traffic thereon shall be suspended for a period of time long enough to permit them to reach the top or bottom of said plane.

Rule 52. No mine cars shall be used in any mine unless the bumpers are of sufficient length and width to keep the bodies of said cars separated by not less than twelve (12) inches when the cars stand on a straight level road and the bumpers touch each other.

Rule 53. It shall be the duty of the owner, operator or superintendent of any or all coal breakers, to have them properly heated in order to prevent injury to the health of persons employed therein.

Rule 54. For the purpose of making known the rules and the provisions of this act to all persons employed in or about such mine or colliery to which this act applies, an abstract of the act and rules shall be posted up in legible characters in some conspicuous place or places at or near the mine or colliery, where they may be conveniently read by the persons employed, and so often as the same becomes obliterated or destroyed the owner, operator or superintendent shall cause them to be renewed with all reasonable dispatch. Any person who pulls down, injures or defaces such abstract of the act or rules when posted up in pursuance to the provisions of this act, shall be guilty of an offense against this act.

Rule 55. No person or persons working in any coal mine or colliery shall cut any props or timbers while the same are in position to support the roof or sides. When it becomes necessary to remove any of the said props or timbers for the purpose of mining coal that may be supported by the same, to dislodge any of the said props or timbers, it must be done by blasting.

Rule 56. It shall not be lawful for any mine foreman or superintendent of any mine or colliery to employ any person who is not com-

petent to understand the regulations of any mine evolving explosive gases: *Provided*, That this rule will not apply to a section of mine, free from the said explosive gases.

Rule 57. Any superintendent or mine foreman who prevents the footman from giving an empty car or cage to the number of men designated in a former rule, shall, upon information by any person engaged in the mines, given the mine Inspector, be fined the sum of fifty dollars for each offense.

Rule 58. Every person who fails to comply with any of the foregoing rules or any of the provisions of this article, shall be guilty of an offense against this act.

Article XIII.

Inquests.

Section 1. Whenever loss of life to a miner or other employe occurs in or about a mine or colliery, notice thereof shall be given promptly to the Inspector of mines for the district in which the accident occurred, by the mine foreman or outside foreman or other person having immediate charge of the work at the time of the accident; and when death results from personal injury such notice shall be given promptly after the knowledge of the death comes to the said foreman or person in charge.

Section 2. Whenever loss of life occurs or whenever the lives of persons employed in a mine or at a colliery are in danger from any accident, the Inspector of mines shall visit the scene of the accident as soon as possible thereafter and offer such suggestions, as in his judgment shall be necessary, to protect the lives and secure the safety of the persons employed. In case of death from such accident, and after examination he finds it necessary that a coroner's inquest shall be held, he shall notify the coroner to hold such inquest without delay, and if no such inquest be held by the coroner within twenty-four (24) hours after such notice, the Inspector shall institute a further and fuller examination of such accident, and for this purpose he shall have power to compel the attendance of witnesses at such examination and to administer oaths and affirmations to persons testifying thereat. The Inspector shall make a record of all such investigations and accidents, which record shall be preserved in his office. The costs of such investigation shall be paid by the county in which the accident occurred in like manner as costs of inquests held by coroners or justices of the peace are now paid.

Section 3. An inquest held by the coroner upon the body of a person killed by explosion or other accident, shall be adjourned by the coroner if the Inspector of mines be not present to watch the pro-

ceedings, and the coroner in such case shall notify the Inspector, in writing, of such adjourned inquest, and the time and place of holding the same, at least three (3) days previous thereto.

Section 4. Due notice of an intended inquest to be held by the coroner, shall be given by the coroner to the Inspector, and at any such inquest the Inspector shall have the right to examine witnesses.

Section 5. If, at any inquest held over the body or bodies of persons whose death was caused by an accident in or about a mine or colliery, the Inspector be not present, and it is shown by the evidence given at the inquest that the accident was caused by neglect or by any defect in or about the mine or colliery, which, in the judgment of the jury, requires a remedy, the coroner shall send notice in writing to said Inspector of such neglect or default.

Section 6. No person who is interested personally, nor a person employed in the mine or at a colliery in or at which loss of life has occurred by accident, shall be qualified to serve on a jury empaneled on the inquest, and a constable or other officer shall not summons such a person so qualified as juror, but the coroner shall empanel a majority of the jury from miners who are qualified to judge of the nature of the accident; every person who fails to comply with the provisions of this article shall be guilty of an offense against this act.

Article XIV.

Returns, Notices, Et Cetera.

Section 1. Notices of death or serious injuries resulting from accidents in or about mines or collieries, shall be made to the Inspector of mines, in writing, and shall specify the name, age and occupation of the person killed or injured, and also the nature and character of the accident and of the injury caused thereby.

Section 2. The owner, operator or superintendent of a mine or colliery, shall, without delay, give notice to the Inspector of the district in which said mine or colliery is situated in any or all of the following cases:

First. Where any working is commenced for the purpose of opening a new slope or mine to which this act applies.

Second. Where any mine is abandoned or the workings thereof discontinued.

Third. Where the working of any mine is recommenced after any abandonment or discontinuance for a period exceeding three months.

Fourth. Where any new coal breaker is completed and work commenced therein for the purpose of preparing coal for market.

Fifth. Where the pillars of a mine are to be removed or robbed.

Sixth. Where a squeeze or crush or any other cause or change

may seem to affect the safety of persons employed in any mine, or where fire occurs or a dangerous body of gas is found in any mine.

Section 3. On or before the first day of February in each year, the owner, operator or superintendent of every mine or colliery, shall send to the Inspector of the district, a correct report specifying with respect to the year ending December thirty-first, previously, the name of the operator and officials of the mine, with his postoffice address; the quantity of coal mined, the amount of powder or other explosive consumed; the number of persons employed above and below ground in or about such colliery, classifying the persons so employed. The report shall be in such form as may be from time to time prescribed by the Inspector of the district. Blank forms for said reports shall be furnished by the Commonwealth.

Article XV.

Injunctions.

Section 1. Upon application of the Inspector of mines of the proper district, acting in behalf of the Commonwealth, any of the courts of law or equity having jurisdiction where the mine or colliery proceeded against is situated, whether any proceedings have or have not been taken, shall prohibit, by injunction or otherwise, the working of any mine or colliery in which any person is employed or is permitted to be for the purpose of working, in contravention of the provisions of this act, and may award such costs in the matter of the injunctions or other proceedings as the court may think just; but this section shall be without prejudice to any other remedy permitted by law for enforcing the provisions of this act. Written notice of the intention to apply for such injunction in respect to any mine or colliery, shall be made to the owner, operator or superintendent of such mine or colliery not less than twenty-four (24) hours before the application is made.

Article XVI.

Arbitration.

Section 1. Whenever an Inspector finds any mine or colliery or part thereof, or any matter, thing or practice connected with such mine, which in any respect thereof is not covered by or provided against by any provisions of this act or by any rule, to be dangerous or defective, or in his judgment tends to bodily injury to a person, he shall give notice thereof in writing to the owner, operator or superintendent of such mine or colliery, stating in such notice the particular matter or defect requiring remedy and may demand that the same be remedied; but the owner, operator or superintendent of said mine

or colliery shall have the right to refer the demand of the Inspector to a board of arbitration, and the matter shall then be arbitrated within forty-eight (48) hours of the time such complaint or demand be made. And the party against whom the award is given shall pay all cost attending the case. The said board of arbitration shall be composed of three (3) persons, one of whom shall be chosen by the Inspector, one by the said owner, operator or superintendent and a third by the two thus selected, and the decision of a majority of such board shall be final and binding in the matter.

Article XVII.

Penalties.

Section 1. Any judge of the court of quarter sessions of the peace of the county in which the mine or colliery, at which the offense, act or omission as hereinafter stated has occurred, is situated, is hereby authorized and required, upon the presentation to him of the affidavit of any citizen of the Commonwealth setting forth that the owner, operator or superintendent, or any other person employed in or about such mine or colliery had been negligently guilty of an offense against the provisions of this act, whereby a dangerous accident had resulted or might have resulted to any person or persons employed in such mine or colliery, to issue a warrant to the sheriff of said county directing him to cause such person or persons to be arrested and brought before said judge, who shall hear and determine the guilt or innocence of the person or persons so charged; and if convicted he or they shall be sentenced to pay a fine not exceeding five hundred dollars, in all cases not otherwise provided for in this act, or an imprisonment in the county jail for a period not exceeding three (3) months, or both, at the discretion of the court: *Provided,* That any defendant may waive a trial before a judge as herein provided and at any time, at or before the time of such trial, demand a trial by a jury in the court of quarter sessions, in which case he may enter into a recognizance before said judge with such surety or sureties and in such sum as said judge may approve, conditioned for his appearance at the next court of quarter sessions to answer the charge against him and abide the orders of the court in the premises, meanwhile to be of good behavior and keep the peace, or in default of such recognizance to be committed to the county jail to await such trial.

Section 2. If any person shall feel himself aggrieved by such conviction and sentence before a judge as aforesaid, he may appeal therefrom subject to the following conditions, namely: The appellant shall, within seven days after the decree has been made, give notice to the prosecutor of his intention to appeal, and within the

same time enter into a recognizance, with such surety or sureties and in such sum as shall be approved by said judge, conditioned to appear and try such appeal before the next court of quarter sessions of the peace and to abide the judgment of the court thereon and to pay all such costs and penalties as may be there awarded, and upon the compliance with such conditions the judge shall release the appellant from custody pending the appeal.

Section 3. Nothing in this act shall prevent any person from being indicted or liable under any other act, to any higher penalty or punishment than is herein provided, and if the court before whom any such proceeding is had shall be of the opinion that proceedings ought to be taken against such persons under any other act, or otherwise, he may adjourn the case to enable such proceedings to be taken.

Section 4. All offenses under this act are declared to be misdemeanors and in default of payment of any penalty or cost by the party or parties sentenced to pay the same, he or they may be imprisoned for a period not exceeding three (3) months and not less than thirty (30) days.

Section 5. For any violation of duty by the mine Inspector prescribed by this act, he shall be deemed guilty of a misdemeanor, and upon conviction, be sentenced to pay a fine of not more than three hundred dollars or be imprisoned for a period not exceeding three months, or either, or both, at the discretion of the court.

Section 6. All fines imposed under this act shall be paid into the county treasury for the use of the county.

Section 7. No conviction or acquittal under this act, in any complaint, shall be received in evidence upon the trial of any action for damages arising from the negligence of any owner, operator or superintendent or employe in any mine or colliery.

Section 8. That for any injury to person or property occasioned by any violation of this act or any failure to comply with its provisions by any owner, operator, superintendent, mine foreman or fire boss of any coal mine or colliery, a right of action shall accrue to the party injured against said owner or operator for any direct damages he may have sustained thereby; and in case of loss of life by reason of such neglect or failure aforesaid, a right of action shall accrue to the widow and lineal heirs of the person whose life shall be lost, for like recovery of damages for the injury they shall have sustained.

Article XVIII.

Definition of Terms.

In this act, unless the context otherwise requires, the term "coal mine or colliery" includes every operation and work, both under

ground and above ground, used or to be used for the purpose of mining and preparing coal.

The term "workings" includes all the excavated parts of a mine, those abandoned as well as the places actually at work.

The term "mine" includes all underground workings and excavations and shafts, tunnels and other ways and openings; also all such shafts, slopes, tunnels and other openings in course of being sunk or driven, together with all roads, appliances, machinery and materials connected with the same below the surface.

The term "shaft" means a vertical opening through the strata and which is or may be used for the purpose of ventilation or drainage or for hoisting men or material in connection with the mining of coal.

The term "slope" means any inclined way or opening used for the same purpose as a shaft.

The term "breaker" means the structure containing the machinery used for the preparation of coal.

The term "owners" and "operators" means any person or body corporate who is the immediate proprietor or lessee or occupier of any coal mine or colliery or any part thereof. The term "owner" does not include a person or body corporate who merely receives a royalty, rent or fine from a coal mine or colliery or part thereof, or is merely the proprietor of the mine subject to any lease, grant or license for the working or operating thereof, or is merely the owner of the soil and not interested in the minerals of the mine or any part thereof. But any "contractor" for the working of a mine or colliery or any part or district thereof, shall be subject to this act as an operator or owner, in like manner as if he were the owner.

The term "superintendent" means the person who shall have, on behalf of the owner, general supervision of one or more mines or collieries.

ARTICLE XIX.

All laws or parts of laws inconsistent or in conflict with the provisions of this act are hereby repealed.

Approved—The 2d day of June, A. D. 1891.

ROBT. E. PATTISON.

AN ACT

Relating to bituminous coal mines and providing for the lives, health, safety and welfare of persons employed therein.

Article I.

Survey—Maps and Plans.

Section 1. *Be it enacted, &c.*, That the operator or superintendent of every bituminous coal mine shall make, or cause to be made by a competent mining engineer or surveyor, an accurate map or plan of such coal mine, not smaller than on a scale of two hundred feet to an inch, which map shall show as follows:

First. All measurements of said mine in feet or decimal parts thereof.

Second. All the openings, excavations, shafts, tunnels, slopes, planes, main-entries, cross-entries, rooms, et cetera, in proper numerical order in each opened strata of coal in said mine.

Third. By darts or arrows made thereon by a pen or pencil the direction of air currents in said mine.

Fourth. An accurate delineation of the boundary lines between said coal mine and all adjoining mines or coal lands, whether owned or operated by the same operator or other operator, and the relation and proximity of the workings of said mine to every other adjoining mine or coal lands.

Fifth. The elevation above mean tide at Sandy Hook of all tunnels, and entries, and of the face of working places adjacent to boundary lines at points not exceeding three hundred feet apart.

Sixth. The bearings and lengths of each tunnel or entry, and of the boundary or property lines. The said map or plan, or a true copy thereof, shall be kept in the general mine office by the said operator or superintendent for use of the mine Inspectors and for the inspection of any person or persons working in said mine whenever said person or persons shall have cause to fear that any working place is becoming dangerous by reason of its proximity to other workings that may contain water or dangerous gas.

Section 2. At least once in every six months, or oftener if necessary, the operator or superintendent of each mine shall cause to be shown accurately on the map or plan said coal mine, all the excavations made therein during the time elapsing since such excavations were last shown upon said map or plan; and all parts of said mine which were worked out or abandoned during said elapsed period of time shall be clearly indicated by colorings on said map or plan, and whenever any of the workings or excavations of said coal mine have been driven to their destination, a correct measurement of all such

workings or excavations shall be made promptly and recorded in a survey book prior to the removal of the pillars or any part of the same from such workings or excavations.

Section 3. The operator or superintendent of every coal mine shall, within six months after the passage of this act, furnish the mine Inspector of the district in which said mine is located with a correct copy on tracing muslin or sun print, of the map or plan of said mine hereinbefore provided for. And the Inspector of the district shall, at the end of each year or twice a year if he requires it, forward said map or plan to the proper person at any particular mine, whose duty it shall be to place or cause to be placed on said map or plan all extensions and worked out or abandoned parts of the mine during the preceding six or twelve months, as the case may be, and return the same to the mine Inspector within thirty days from the time of receiving it. The copies of the maps or plans of the several coal mines of each district as hereinbefore required to be furnished to the mine Inspector shall remain in the care of the Inspector of the district in which the said mines are situated, as official records, to be transferred by him to his successor in office; but it is provided that in no case shall any copy of the same be made without the consent of the operator or his agent.

Section 4. If any superintendent or operator of mines shall neglect or fail to furnish to the mine Inspector any copies of maps or plans as hereinbefore required by this act, or if the mine Inspector shall believe that any map or plan of any coal mine made or furnished in pursuance of the provisions of this act is materially inaccurate or imperfect, then, in either case, the mine Inspector is hereby authorized to cause a correct survey and map or plan of said coal mine to be made at the expense of the operator thereof, the cost of which shall be recoverable from said operator as other debts are recoverable by law: *Provided, however*, That if the map or plan which may be claimed by the mine Inspector to be inaccurate shall prove to be correct, then the Commonwealth shall be liable for the expense incurred by the mine Inspector in causing to be made said test survey and map, and the costs thereof, ascertained by the Auditor General by proper vouchers and satisfactory proof, shall be paid by the State Treasurer upon warrants which the said Auditor General is hereby directed to draw for the same.

Article II.

Section 1. It shall not be lawful for the operator, superintendent or mine foreman of any bituminous coal mine to employ more than twenty persons within said coal mine, or permit more than twenty persons to be employed therein at any one time unless they are in communication with at least two available openings to the surface

from each seam or stratum of coal worked in such mine, exclusive of the furnace upcast shaft or slope: *But provided,* That in any mine operated by shaft or slope and ventilated by a fan, if the air shaft shall be divided into two compartments, one of them may be used for an air-way and the other for the purpose of egress and ingress from and into said mine by the persons therein employed and the same shall be considered a compliance with the provisions of this section hereinbefore set forth. And there shall be cut out or around the side of every hoisting shaft, or driven through the solid strata at the bottom thereof, a traveling way not less than five feet high and three feet wide to enable persons to pass the shaft in going from one side of it to the other without passing over or under the cage or other hoisting apparatus.

Section 2. The shaft or outlet, other than the main shaft or outlet shall be separated from the main outlet and from the furnace shaft by natural strata at all points by a distance of not less than one hundred and fifty feet (except in all mines opened prior to June thirtieth, one thousand eight hundred and eighty-five, where such distances may be less, if in the judgment of the mine Inspector one hundred and fifty feet is impracticable). If the mine be worked by drift, two openings exclusive of the furnace upcast shaft and not less than thirty feet apart, shall be required (except in drift mines opened prior to June thirtieth, one thousand eight hundred and eighty-five, where the mine Inspector of the district shall deem the same impracticable). Where the two openings shall not have been provided as required hereinbefore by this act, the mine Inspector shall cause the second to be made without delay; and in no case shall furnace ventilation be used where there is only one opening into the mine.

Section 3. Unless the mine Inspector shall deem it impracticable, all mines shall have at least two entries or other passage ways, one of which shall lead from the main entrance and the other from the opening into the body of the mine, and said two passageways shall be kept well drained and in a safe condition for persons to travel therein throughout their whole length so as to obtain, in cases of emergency, a second way for egress from the workings. No part of said workings shall at any time be driven more than three hundred feet in advance of the aforesaid passageways, except entries, air-ways or other narrow work, but should an opening to the surface be provided from the interior of the mine, the passageways aforesaid may be made and maintained therefrom into the working part of the mine, and this shall be deemed sufficient compliance with the provisions of this act relative thereto; said two passage-ways shall be separated by pillars of coal or other strata of sufficient strength and width.

Section 4. Where necessary to secure access to the two passage-ways required in section three of article two of this act in any slope mine where the coal seam inclines and has workings on both sides of said slope, there shall be provided an overcast for the use of persons working therein, the dimensions of which shall not be less than four feet wide and five feet high. Said overcast shall connect the workings on both sides of said slope and the intervening strata between the slope and the overcast shall be of sufficient strength and thickness at all points for its purpose: *Provided*, That if said overcast be substantially constructed of masonry or other incombustible material it shall be deemed sufficient.

Section 5. When the opening or outlet, other than the main opening, is made and does not exceed seventy-five feet in vertical depth, it shall be set apart exclusively for the purpose of ingress to or egress from the mine by any person or persons employed therein it shall be kept in a safe and available condition and free from steam and dangerous gases, and all other obstructions, and if such opening is a shaft it shall be fitted with safe and convenient stairs with steps of an average tread of ten inches and nine inches rise, not less than two feet wide and to not exceed an angle of sixty degrees descent with landings of not less than eighteen inches wide and four feet long, at easy and convenient distances: *Provided*, That the requirements of this section shall not be applicable to stairways in use prior to June thirtieth, one thousand eight hundred and eighty-five, when in the judgment of the mine Inspector, they are sufficiently safe and convenient. And water coming from the surface or out of the strata in the shaft shall be conducted away by rings, casing or otherwise and be prevented from falling upon persons who are ascending or descending the stairway of the shaft.

Section 6. Where any mine is operated by a shaft which exceeds seventy-five feet in vertical depth, the persons employed in said mine shall be lowered into and raised from said mine by means of machinery, and in any such mine the shaft, other than the main shaft, shall be supplied with safe and suitable machinery for hoisting and lowering persons, or with safe and convenient stairs for use in cases of emergency by persons employed in said mine: *Provided*, That any mine operated by two shafts, and where safe and suitable machinery is provided at both shafts for hoisting coal or persons, shall have sufficiently complied with the requirements of this section.

Section 7. At any mine, where one of the two openings required hereinbefore is a slope and is used as a traveling way, it shall not have a greater angle of descent than twenty degrees and may be of any depth.

Section 8. The machinery used for lowering or raising the em-

ployes into or out of the mine and the stairs used for ingress or egress, shall be kept in a safe condition, and inspected once each twenty-four hours by a competent person employed for that purpose. And such machinery and the method of its inspection shall be approved by the mine Inspector of the district in which the mine is situated.

Article III.

Hoisting Machinery, Safety Catches, Signaling Apparatus, Et Cetera.

Section 1. The operator or superintendent shall provide and maintain, from the top to bottom of every shaft where persons are raised or lowered, a metal tube suitably adapted to the free passage of sound through which conversation may be held between persons at the top and bottom of said shaft, and also a means of signaling from the top to the bottom thereof, and shall provide every cage or gear carriage used for hoisting or lowering persons with a sufficient overhead covering to protect those persons when using the same, and shall provide also for each said cage or carriage a safety catch approved by the mine Inspector. And the said operator or superintendent shall see that flanges, with a clearance of not less than four inches, when the whole of the rope is wound on the drum, are attached to the sides of the drum of every machine that is used for lowering and hoisting persons in and out of the mine, and also that adequate brakes are attached to the drum. At all shafts safety gates, to be approved by the mine Inspector of the district shall be so placed as to prevent persons from falling into the shaft.

Section 2. The main coupling chain attached to the socket of the wire rope shall be made of the best quality of iron and shall be tested by weights or otherwise to the satisfaction of the mine Inspector of the district wherein the mine is located, and bridle chains shall be attached to the main hoisting rope above the socket, from the top cross-piece of the carriage or cage, so that no single chain shall be used for lowering or hoisting persons into or out of the mines

Section 3. No greater number of persons shall be lowered or hoisted at any one time than may be permitted by the mine Inspector of the district, and notice of the number so allowed to be lowered or hoisted at any one time shall be kept posted up by the operator or superintendent in conspicuous places at the top and bottom of the shaft, and the aforesaid notice shall be signed by the mine Inspector of the district.

Section 4. All machinery about mines from which any accident would be liable to occur shall be properly fenced off by suitable guard railing.

Article IV.

Section 1. The operator or superintendent of every bituminous coal mine, whether shaft, slope or drift, shall provide and hereafter maintain ample means of ventilation for the circulation of air through the main entries, cross-entries and all other working places to an extent that will dilute, carry off and render harmless the noxious or dangerous gases, generated in the mine, affording not less than one hundred cubic feet per minute for each and every person employed therein; but in a mine where fire damp has been detected the minimum shall be one hundred and fifty cubic feet per minute for each person employed therein, and as much more in either case as one or more of the mine Inspectors may deem requisite.

Section 2. After May thirtieth, one thousand eight hundred and ninety-four, not more than sixty-five persons shall be permitted to work in the same air current: *Provided*, That a larger number, not exceeding one hundred, may be allowed by the mine Inspector where, in his judgment, it is impracticable to comply with the foregoing requirement; and mines where more than ten persons are employed, shall be provided with a fan furnace or other artificial means to produce the ventilation, and all stoppings between main intake and return air-ways hereinafter built or replaced shall be substantially built with suitable material, which shall be approved by the Inspector of the district.

Section 3. All ventilating fans shall be kept in operation continuously night and day, unless operations are indefinitely suspended, except written permission is given by the mine Inspector of the district to stop the same, and the said written permission shall state the particular hours the said fan may not be in operation, and the mine Inspector shall have power to withdraw or modify such permission as he may deem best, but in all cases the fan shall be started two hours before the time to begin work. When the fan may be stopped by permission of the mine Inspector a notice printed in the various languages used by persons employed in the mine, stating at what hour or hours the fan will be stopped, shall be posted by the mine foreman in a conspicuous place at the entrance or entrances to the mine.

Said printed notices shall be furnished by the mine Inspector and the cost thereof borne by the State: *Provided*, That should it at any time become necessary to stop the fan on account of accident or needed repairs to any part of the machinery connected therewith, or by reason of any other unavoidable cause, it shall then be the duty of the mine foreman or any other officials in charge, after first having provided, as far as possible for the safety of the persons employed in the mine, to order said fan to be stopped so as to make the

necessary repairs or to remove any other difficulty that may have been the cause of its stoppage. And all ventilating furnaces in mines shall, for two hours before the appointed time to begin work and during working hours, be properly attended by a person employed for that purpose. In mines generating fire-damp in sufficient quantities to be detected by ordinary safety lamps, all main air bridges or overcasts made after the passage of this act shall be built of masonry or other incombustible material of ample strength or be driven through the solid strata.

In all mines the doors used in guiding and directing the ventilation of the mine shall be so hung and adjusted that they will close themselves, or be supplied with spring or pulleys so that they cannot be left standing open, and an attendant shall be employed at all principal doors through which cars are hauled, for the purpose of opening and closing said doors when trips of cars are passing to and from the workings, unless an approved self-acting door is used, which principal doors shall be determined by the mine Inspector or mine foreman. A hole for shelter shall be provided at each door so as to protect said attendant from being run over by the cars while attending to his duties, and persons employed for this purpose shall at all times remain at their post of duty during working hours: *Provided*, That the same person may attend two doors where the distance between them is not more than one hundred feet. On every inclined plane or road in any mine where haulage is done by machinery and where a door is used, an extra door shall be provided to be used in case of necessity.

Article V.

Safety Lamps, Fire Bosses, Et Cetera.

Section 1. All mines generating fire-damp shall be kept free of standing gas in all working places and roadways. No accumulation of explosive gas shall be allowed to exist in the worked out or abandoned parts of any mine when it is practicable to remove it, and the entrance or entrances to said worked out and abandoned places shall be properly fenced off, and cautionary notices shall be posted upon said fencing to warn persons of danger.

Section 2. In all mines wherein explosive gas has been generated within the period of six months next preceding the passage of this act, and also in all mines where fire-damp shall be generated, after the passage of this act, in sufficient quantities to be detected by the ordinary safety lamp, every working place without exception and all road ways shall be carefully examined immediately before each shift by competent person or persons appointed by the superintendent and mine foreman for that purpose. The person or persons

making such examination shall have received a fire boss certificate of competency required by this act, and shall use no light other than that enclosed in a safety lamp while making said examination. In all cases said examination shall be begun within three hours prior to the appointed time of each shift commencing to work, and it shall be the duty of the said fire boss at each examination to leave at the face and side of every place so examined, evidence of his presence. And he shall also, at each examination, inspect the entrance or entrances to the worked out or abandoned parts which are adjacent to the roadways and working places of the mine where fire-damp is likely to accumulate, and where danger is found to exist he shall place a danger signal at the entrances to such places, which shall be sufficient warning for persons not to enter said place.

Section 3. In any place that is being driven towards or in dangerous proximity to an abandoned mine or part of a mine suspected of containing inflammable gases, or which may be inundated with water, bore holes shall be kept not less than twelve feet in advance of the face, and on the sides of such working places, said side holes to be drilled diagonally not more than eight feet apart, and any place driven to tap water or gas shall not be more than ten feet wide, and no water or gas from an abandoned mine or part of a mine and no bore holes from the surface, shall be tapped until the employes, except those engaged at such work, are out of the mine, and such work to be done under the immediate instruction of the mine foreman.

Section 4. The fire boss shall at each entrance to the mine or in the main intake air-way near to the mine entrance, prepare a permanent station with the proper danger signal designated by suitable letters and colors placed thereon, and it shall not be lawful for any person or persons, except the mine officials in cases of necessity, and such other persons as may be designated by them, to pass beyond said danger station until the mine has been examined by the fire boss as aforesaid and the same, or certain parts thereof, reported by him to be safe, and in all mines where operations are temporarily suspended the superintendent and mine foreman shall see that a danger signal be placed at the mine entrance or entrances, which shall be a sufficient warning to persons not to enter the mine, and if the ordinary circulation of air through the mine be stopped each entrance to said mine shall be securely fenced off and a danger signal shall be displayed upon said fence and any workman or other person, (except those persons hereinbefore provided for,) passing by any danger signal into the mine before it has been examined and reported to be safe as aforesaid, shall be deemed guilty of a misdemeanor and it shall be the duty of the fire boss, mine foreman, superintendent or

any employe to forthwith notify the mine Inspector, who shall enter proceedings against such person or persons as provided for in section two of article twenty-one of this act.

Section 5. All entries, tunnels, air-ways, traveling ways and other working places of a mine where explosive gas is being generated in such quantities as can be detected by the ordinary safety lamp, and pillar workings and other working places in any mine where a sudden inflow of said explosive gas is likely to be encountered, (by reason of the subsidence of the overlying strata or from any other causes), shall be worked exclusively with locked safety lamps. The use of open lights is also prohibited in all working places, roadways or other parts of the mine through which fire-damp might be carried in the air current in dangerous quantities. In all mines or parts of mines worked with locked safety lamps the use of electric wires and electric currents is positively prohibited, unless said wires and machinery and all other mechanical devices attached thereto and connected therewith are constructed and protected in such a manner as to secure freedom from the emission of sparks or flame therefrom into the atmosphere of the mine.

Section 6. After January first, one thousand eight hundred and ninety-four, the use of the common Davy safety lamp for general work in any bituminous coal mine is hereby prohibited, neither shall the Clanny lamp be so used unless its gauze is thoroughly protected by a metallic shield, but this act does not prohibit the use of the Davy and Clanny lamps by the mine officials for the purpose of examining the workings for gas.

Section 7. All safety lamps used for examining mines or for working therein shall be the property of the operator, and shall be in the care of the mine foreman, his assistant or fire boss, or other competent person, who shall clean, fill, trim, examine and deliver the same, locked, in a safe condition to the men when entering the mine before each shift, and shall receive the same from the men at the end of each shift, for which service a charge not exceeding cost of labor and material may be made by the operator. A sufficient number of safety lamps, but not less than twenty-five per centum of those in use, shall be kept at each mine where gas has at any time been generated in sufficient quantities to be detected by an ordinary safety lamp, for use in case of emergency. It shall be the duty of every person who knows his safety lamp to be injured or defective, to promptly report such fact to the party authorized herein to receive and care for said lamps, and it shall be the duty of that party to promptly report such fact to the mine foreman.

Article VI.

Mine Foreman and His Duties.

Section 1. In order to better secure the proper ventilation of the bituminous coal mines and promote the health and safety of the persons employed therein, the operator or superintendent shall employ a competent and practical inside overseer for each and every mine, to be called mine foreman; said mine foreman shall have passed an examination and obtained a certificate of competency or of service as required by this act and shall be a citizen of the United States and an experienced coal miner, and said mine foreman shall devote the whole of his time to his duties at the mine when in operation, or in case of his necessary absence, an assistant, chosen by him, and shall keep a careful watch over the ventilating apparatus, and the air-ways, traveling ways, pump and pump timbers and drainage, and shall often instruct, and as far as possible, see that as the miners advance their excavations all dangerous coal, slate and rock overhead are taken down or carefully secured against falling therein, or on the traveling and hauling ways, and that sufficient props, caps and timbers of suitable size are sent into the mine when required, and all props shall be cut square at both ends, and as near as practicable to a proper length for the places where they are to be used, and such props, caps and timbers shall be delivered in the working places of the mine.

Section 2. Every workman in want of props or timbers and cap pieces shall notify the mine foreman or his assistant of the fact at least one day in advance, giving the length and number of props or timbers and cap pieces required, but in cases of emergency the timbers may be ordered immediately upon the discovery of any danger. (The place and manner of leaving the orders for the timber shall be designated and specified in the rules of the mine.) And if, from any cause, the timbers cannot be supplied when required, he shall instruct the persons to vacate all said working places until supplied with the timber needed, and shall see that all water be drained or hauled out of all working places before the miner enters and as far as practicable kept dry while the miner is at work.

Section 3. It shall be the duty of the mine foreman to see that proper cut-throughs are made in all the rooms, pillars at such distances apart as in the judgment of the mine Inspector may be deemed requisite, not more than thirty-five nor less than sixteen yards each, for the purpose of ventilation, and the ventilation shall be conducted through said cut-through into rooms by means of check doors made of canvas or other suitable material, placed on the entries, or in other suitable places, and he shall not permit any room to be opened

in advance of the ventilating current. Should the mine Inspector discover any room, entry, air-way or other working places being driven in advance of the air current contrary to the requirements of this section, he shall order the workmen working in such places to cease work at once until the law is complied with.

Section 4. In all hauling roads, on which hauling is done by animal power, and whereon men have to pass to and from their work, holes for shelter, which shall be kept clear of obstruction, shall be made at least every thirty yards and be kept whitewashed, but shelter holes shall not be required in entries from which rooms are driven at regular intervals not exceeding fifty feet, where there is a space four feet between the wagon and rib, it shall be deemed sufficient for shelter. On all hauling roads whereon hauling is done by machinery, and all gravity or inclined planes inside mines upon which the persons employed in the mine must travel on foot to and from their work, such shelter holes shall be cut not less than two feet six inches into the strata and not more than fifteen yards apart, unless there is a space of at least six feet from the side of the car to the side of the roadway, which space shall be deemed sufficient for shelter: *Provided*, That this requirement shall not apply to any parts of mines which parts were opened prior to the passage of this act if deemed impracticable by the mine Inspector.

Section 5. The mine foreman shall measure the air current at least once a week at the inlet and outlet and at or near the faces of the entries, and shall keep a record of such measurements. An anemometer shall be provided for this purpose by the operator of the mine. It shall be the further duty of the mine foreman to require the workmen to use locked safety lamps when and where required by this act.

Section 6. The mine foreman shall give prompt attention to the removal of all dangers reported to him by the fire boss or any other person working in the mine, and in mines where a fire boss is not employed, the said mine foreman or his assistant shall visit and examine every working place therein at least once every alternate day while the miners of such place are or should be at work, and shall direct that each and every working place be properly secured by props or timbers, and that no person shall be directed or permitted to work in an unsafe place unless it be for the purpose of making it safe: *Provided*, That if the owner or operator of any mine employing a fire boss shall require the mine foreman to examine every working place every alternate day, then it shall be the duty of the mine foreman to do so.

Section 7. When the mine foreman is unable personally to carry out all the requirements of this act as pertaining to his duties, he

shall employ a competent person or persons, not objectionable to the operator, to act as his assistant or assistants, who shall act under his instructions, and in all mines where fire-damp is generated the said assistant or assistants shall possess a certificate of competency as mine foreman or fire boss.

Section 8. A suitable record book, with printed head lines, prepared by and approved by the mine Inspector, the same to be provided at the expense of the Commonwealth, shall be kept at each mine generating explosive gases, and immediately after each examination of the mine made by the fire boss or fire bosses, a record of the same shall be entered in said book, signed by the person or persons making such examination, which shall clearly state the nature and location of any danger which he or they may have discovered, and the fire boss or fire bosses shall immediately report such danger and the location of the same to the mine foreman, whose duty it shall be to remove the danger, or cause the same to be done forthwith as far as practicable, and the mine foreman shall also each day countersign all reports entered by the fire boss or fire bosses. At all mines the mine foreman shall enter in a book provided as above by the mine Inspector, a report of the condition of the mine, signed by himself, which shall clearly state any danger that may have come under his observation during the day, and shall also state whether he has a proper supply of material on hand for the safe working of the mine, and whether all requirements of the law are strictly complied with. He shall, once each week, enter or cause to be entered, plainly, with ink, in said book, a true record of all air measurements required by this act, and such book shall at all times, be kept at the mine office for examination by the mine Inspector of the district and any other person working in the mines.

Article VII.

Timbers and Other Mine Supplies, Et Cetera.

Section 1. It shall be the duty of the superintendent, on behalf and at the expense of the operator to keep on hand at the mines at all times, a full supply of all materials and supplies required to preserve the health and safety of the employes as ordered by the mine foreman and required by this act. He shall at least once a week, examine and countersign—(which countersignature of the superintendent shall be held, under this act to have no further bearing than the evidence of the fact that the mine superintendent has read the matter entered on the book)—all reports entered in the mine record book, and if he finds that the law is being violated in any particular, he shall order the mine foreman to comply with its provisions forth

with. If from any cause he cannot procure the necessary supplies or materials as aforesaid, he shall notify the mine foreman, whose duty it shall be to withdraw the men from the mine or part of mine until such supplies or material are received.

Section 2. The superintendent of the mine shall not obstruct the mine foreman or other officials in their fulfillment of any of the duties required by this act. At mines where superintendents are not employed, the duties that are herein prescribed for the superintendent shall devolve upon the mine foreman.

Article VIII.

Steam Boilers, Stables, Regulations for the Use of Oil, Powder Et Cetera.

Section 1. After the passage of this act it shall be unlawful to place a main or principal ventilating fan inside of any bituminous coal mine wherein explosive gas has been detected or in which the air current is contaminated with coal dust. No stationary steam boiler shall be placed in any bituminous coal mine, unless said steam boiler be placed within fifty feet from the bottom of an up-cast shaft, which shaft shall not be less than twenty-five square feet in area, and after May thirtieth, one thousand eight hundred and ninety-five, no stationary steam boiler shall be permitted to remain in any bituminous coal mine only as aforesaid.

Section 2. It shall not be lawful after the passage of this act to provide any horse or mule stables inside of bituminous coal mines, unless said stables are excavated in the solid strata or coal seams, and no wood or other combustible material shall be used excessively in the construction of said stables, unless surrounded by or incased by some incombustible material. The air current used for ventilating said stable shall not be intermixed with the air current used for ventilating the working parts of the mine, but shall be conveyed directly to the return air current, and no open light shall be permitted to be used in any stable in any mine.

Section 3. No hay or straw shall be taken into any mine, unless pressed and made up into compact bales, and all hay or straw taken into the mines as aforesaid, shall be stored in a storehouse excavated in the solid strata or built in masonry for that purpose. After January first, one thousand eight hundred and ninety-four, no horse or mule stable or storehouse, only as aforesaid, shall be permitted in any bituminous coal mine.

Section 4. No explosive oil shall be used or taken into bituminous coal mines for lighting purposes, and oil shall not be stored or taken into the mines in quantities exceeding five gallons. The oiling or greasing of cars inside of the mines is strictly forbidden unless the

place where said oil or grease is used is thoroughly cleaned at least once every day to prevent the accumulation of waste oil or grease on the roads or in the drains at that point. Not more than one barrel of lubricating oil shall be permitted in the mine at any one time. Only a pure animal or pure cotton-seed oil or oils, that shall be as free from smoke as a pure animal or pure cotton-seed oil, shall be used for illuminating purposes in any bituminous mine. Any person found knowingly using explosive or impure oil, contrary to this section, shall be prosecuted as provided for in section two of article twenty-one of this act.

Section 5. No powder or high explosive shall be stored in any mine, and no more of either article shall be taken into the mine at any one time than is required in any one shift, unless the quantity be less than five pounds, and in all working places where locked safety lamps are used blasting shall only be done by the consent and in the presence of the mine foreman, his assistant or fire boss, or any competent party designated by the mine foreman for that purpose; whenever the mine Inspector discovers that the air in any mine is becoming vitiated by the unnecessary blasting of the coal, he shall have the power to regulate the use of the same and to designate at what hour of the day blasting may be permitted.

Article IX.

Opening for Drainage Et Cetera, on Other Lands.

Section 1. If any person, firm or corporation is or shall hereafter be seized in his or their own right of coal lands, or shall hold such lands under lease and shall have opened or shall desire to open a coal mine on said land, and it shall not be practicable to drain or ventilate such mines or to comply with the requirements of this act as to ways of ingress and egress or traveling ways by means of openings on lands owned or held under lease by him, them or it, and the same can be done by means of openings on adjacent lands, he, they or it may apply by petition to the court of quarter sessions of the proper county, after ten days' notice to the owner or owners, their agents or attorney, setting forth the facts under oath or affirmation particularly describing the place or places where such opening or openings can be made, and the pillars of coal or other material necessary for the support of such passageway and such right of way to any public road as may be needed in connection with such opening, and that he or they cannot agree with the owner or owners of the land as to the amount to be paid for the privilege of making such opening or openings, whereupon the said court shall appoint three disinterested and competent citizens of the county to view the ground desig-

nated and lay out from the point or points mentioned in such petition, a passage or passages not more than eighty feet area by either drift, shaft or slope, or by a combination of any of said methods by any practicable and convenient route to the coal of such person, firm or corporation, preferring in all cases an opening through the coal strata where the same is practicable. The said viewers shall, at the same time, assess the damages to be paid by the petitioner or petitioners to the owner or owners of such lands for the coal and other valuable material to be removed in the excavation and construction of said passage, also for such coal or other valuable material necessary to support the said passage, as well as for a right of way not exceeding fifteen feet in width from any such opening to any public road, to enable persons to gain entrance to the mine through such opening or to provide therefrom, upon the surface, a water course of suitable dimensions to a natural water stream to enable the operator to discharge the water from said mine if such right of way shall be desired by the petitioner or petitioners, which damages shall be fully paid before such opening is made. The proceedings shall be recorded in the road docket of the proper county, and the pay of viewers shall be the same as in road cases; if exceptions be filed they shall be disposed of by the court as speedily as possible, and both parties to have the right to take depositions as in road cases. If, however, the petitioner desires to make such openings or roads or waterways before the final disposition of such exceptions, he shall have the right to do so by giving bond, to be approved by the court securing the damages as provided by law in the case of lateral railroads.

Section 2. It shall be compulsory upon the part of the mine owner or operator to exercise the powers granted by the provisions of the last preceding section for the procuring of a right of way on the surface from the opening of a coal mine to a public road or public roads, upon the request in writing of fifty miners employed in the mine or mines of such owner or operator: *Provided, however*, That with such request satisfactory security be deposited with the mine owner or operator by said petitioners, being coal miners, to fully and sufficiently pay all costs, damages and expenses caused by such proceedings and in paying for such right of way.

Section 3. In any mine or mines, or parts thereof, wherein water may have been allowed to accumulate in large and dangerous quantities, putting in danger the adjoining or adjacent mines and the lives of the miners working therein, and when such can be tapped and set free and flow by its own gravity to any point of drainage, it shall be lawful for any operator or person having mines so endangered, with the approval of the Inspector of the district to pro-

ceed and remove the said danger by driving a drift or drifts protected by bore holes as provided by this act, and in removing said danger it shall be lawful to drive across property lines if needful. And it shall be unlawful for any person to dam or in any way obstruct the flow of any water from said mine or parts thereof, when so set free on any part of its passage to point of drainage.

Section 4. No operator shall be permitted to mine coal within fifty feet of any abandoned mine containing a dangerous accumulation of water, until said danger has been removed by driving a passage way so as to tap and drain off said water as provided for in this act: *Provided,* That the thickness of the barrier pillars shall be greater and shall be in proportion of one foot of pillar thickness to each one and one-quarter foot of waterhead if, in the judgment of the engineer of the property and that of the district mine Inspector, it is necessary for the safety of the persons working in the mine.

Section 5. All operators of bituminous coal mines shall keep posted in a conspicuous place at their mines the general and special rules embodied in and made part of this act, defining the duties of all persons employed in or about said mine, which said rules shall be printed in the English language, and shall also be printed in such other language or languages as are used by any ten persons working therein. It shall be the duty of the mine Inspector to furnish to the operator printed copies of such rules and such translations thereof as are required by this section, and to certify their correctness over his signature. The cost thereof shall be borne by the State.

Article X.

Inspectors, Examining Boards Et Cetera.

Section 1. The board of examiners appointed to examine candidates for the office of mine Inspectors under the provisions of the act to which this is a supplement, shall exercise all the powers granted, and perform all the duties required by this supplementary act, and at the expiration of their term of office, and every four years thereafter, the Governor shall appoint, as hereinafter provided, during the month of January, two mining engineers of good repute and three other persons, who shall have passed successful examinations qualifying them to act as mine Inspectors or mine foremen in mines generating fire-damp, who shall be citizens of this Commonwealth and shall have attained the age of thirty years and shall have had at least five years of practical experience in the bituminous mines of Pennsylvania, and who shall not be serving at that time in any official capacity at mines, which five persons shall constitute a board of examiners whose duty it shall be to inquire into the character and

qualification of candidates for the office of Inspector of mines under the provisions of this act.

Section 2. The examining board, so constituted shall meet on the first Tuesday of March following their appointment, in the city of Pittsburg, to examine applicants for the office of mine Inspector: *Provided, however,* The examining board shall meet two weeks previous to the aforesaid time for the purpose of preparing questions et cetera, and when called together by the Governor on extra occasions at such time and place as he may designate, and after being duly organized and having taken and subscribed before any officer authorized to administer the same the following oath, namely, "We, the undersigned, do solemnly swear (or affirm) that we will perform the duties of examiners of applicants for the appointment as inspectors of bituminous coal mines to the best of our abilities, and that in recommending or rejecting said applicant, we will be governed by the evidence of the qualification to fill the position under the law creating the same, and not by any consideration of political or personal favor; and that we will certify all whom we may find qualified according to the true intent and meaning of the act and none others."

Section 3. The general examination shall be in writing and the manuscript and other papers of all applicants, together with the tally sheets and the solution of each question as given by the examining board, shall be filed with the Secretary of Internal Affairs as public documents, but each applicant shall undergo an oral examination pertaining to explosive gases and safety lamps, and the examining board shall certify to the Governor the names of all such applicants which they shall find competent to fill this office under the the provisions of this act, which names, with the certificates and their percentages and the oaths of the examiners, shall be mailed to the Secretary of the Commonwealth and be filed in his office. No person shall be certified as competent whose percentage shall be less than ninety per centum, and such certificate shall be valid only when signed by four of the members of the examining board.

Section 4. The qualification of candidates for said office of Inspectors of mines to be inquired into and certified by said examiners, shall be as follows, namely: They shall be citizens of Pennsylvania, of temperate habits, of good repute as men of personal integrity, and shall have attained the age of thirty years, and shall have had at least five years of practical experience in working of or in the workings of the bituminous mines of Pennsylvania immediately preceding their examination, and shall have had practical experience with fire-damp inside the mines of this country, and upon examination shall give evidence of such theoretical as well as practical

knowledge and general intelligence respecting mines and mining and the working and ventilation thereof, and all noxious mine gases, and will satisfy the examiners of their capability and fitness for the duties imposed upon Inspectors of mines by the provisions of this act. And the examining board shall immediately after the examination, furnish to each person who came before it to be examined, a copy of all questions whether oral or written, which were given at the examination on printed slips of paper and to be marked solved, right, imperfect or wrong, as the case may be, together with a certificate of competency to each candidate who shall have made at least ninety per centum.

Section 5. The board of examiners may, also at their meeting, or when at any time called by the Governor together for an extra meeting, divide the bituminous coal regions of the State into inspection districts, no district to contain less than sixty nor more than eighty mines, and as nearly as possible equalizing the labor to be performed by each Inspector, and at any subsequent calling of the board of examiners this division may be revised as experience may prove to be advisable.

Section 6. The board of examiners shall each receive ten dollars per day for each day actually employed, and all necessary expenses, to be paid out of the State treasury. Upon the filing of the certificate of the examining board in the office of the Secretary of the Commonwealth, the Governor shall, from the names so certified, commission one person to be Inspector of mines for each district as fixed by the examiners in pursuance of this supplementary act, whose commission shall be for a full term of four years from the fifteenth day of May following: *Always provided however*, The highest candidate or candidates in percentage shall have priority to be commissioned for a full term or unexpired term before those candidates of lower percentage, and in case of a tie percentage the oldest candidate shall be commissioned.

Section 7. As often as vacancies occur in said offices of Inspectors of mines, the Governor shall commission for the unexpired term from the names on file, the highest in percentage in the office of the Secretary of the Commonwealth, until the number shall be exhausted, and whenever this may occur, the Governor shall cause the aforesaid board of examiners to meet, and they shall examine persons who may present themselves for the vacant office of mine Inspector as herein provided, and the board of examiners shall certify to the Governor all persons who shall have made ninety per centum in said examination, one of whom to be commissioned by him according to the provisions of this act for the office of mine Inspector for the unexpired term, and any vacancy that may occur in the examining board shall be filled by the Governor of this Commonwealth.

Section 8. Each Inspector of mines shall receive for his services an annual salary of three thousand dollars and actual traveling expenses, to be paid quarterly by the State Treasurer upon warrant of the Auditor General, and each mine Inspector shall keep an office in the district for which he is commissioned and he shall be permitted to keep said office at his place of residence: *Provided*, A suitable apartment or room be set off for that purpose. Each mine Inspector is hereby authorized to procure such instruments, chemical tests and stationery and to incur such expenses of communication from time to time, as may be necessary to the proper discharge of his duties under this act at the cost of the State, which shall be paid by the State Treasurer upon accounts duly certified by him and audited by the proper department of the State.

Section 9. All instruments, plans, books, memoranda, notes and other material pertaining to the office shall be the property of the State, and shall be delivered to their successors in office. In addition to the expenses now allowed by law to the mine Inspectors in enforcing the several provisions of this act, they shall be allowed all necessary expenses by them incurred in enforcing the several provisions of said law in the respective courts of the Commonwealth, the same to be paid by the State Treasurer on warrants drawn by the Auditor General after auditing the same; all such accounts persented by the mine Inspector to the Auditor General shall be itemized and first approved by the court before which the proceedings were instituted.

Section 10. Each mine Inspector of bituminous coal mines shall, before entering upon the discharge of his duties, give bond in the sum of five thousand dollars, with sureties to be approved by the president judge of the district in which he resides, conditional for the faithful discharge of his duties, and take an oath or affirmation to discharge his duties impartially and with fidelity to the best of his knowledge and ability. But no person who shall act as manager or agent of any coal mine, or as a mining engineer, or is interested in operating any coal mine shall, at the same time act as mine Inspector of coal mines under this act.

Section 11. Each Inspector of bituminous coal mines shall devote the whole of his time to the duties of his office. It shall be his duty to examine each mine in his district as often as possible, but a longer period of time than three months shall not elapse between said examination, to see that all the provisions of this act are observed and strictly carried out, and he shall make a record of all examinations of mines, showing the condition in which he finds them, especially with reference to ventilation and drainage, the number of persons employed in each mine, the extent to which the law is

obeyed and progress made in the improvement of mines, the number of serious accidents and the nature thereof, the number of deaths resulting from injuries received in or about the mines with the cause of such accident or death, which record completed to the thirty-first day of December of each and every year, shall, on or before the fifteenth day of March following, be filed in the office of the Secretary of Internal Affairs, to be by him recorded and included in the annual report of his department.

Section 12. It shall be the duty of the mine Inspector on examination of any mine, to make out a written, or partly written and partly printed report of the condition in which he finds such mine and post the same in the office of the mine or other conspicuous place. The said report shall give the date of the visit, the number of cubic feet of air in circulation and where measured, and that he has measured the air at the cut through one or more rooms in each heading or entry, and such other information as he shall deem necessary, and the said report shall remain posted in the office or conspicuous place for one year and may be examined by any person employed in or about the mine.

Section 13. In case the Inspector becomes incapacitated to perform the duties of his office or receives a leave of absence from the same from the Governor, it shall be the duty of the judge of the court of common pleas of his district to appoint, upon said mine Inspectors application or that five miners or five operators of said Inspector's district, some competent person, recommended by the board of examiners to fill the office of Inspector until the said Inspector shall be able to resume the duties of his office, and the person so appointed shall be paid in the same manner as is hereinbefore provided for the Inspector of mines.

Article XI.

Inspectors' Powers Et Cetera.

Section 1. That the mine Inspectors may be enabled to perform the duties herein imposed upon them, they shall have the right at all times to enter any bituminous coal mine to make examinations or obtain information, and upon the discovery of any violation of this act, they shall institute proceedings against the person or persons at fault under the provisions of section two of article twenty-one of this act. In case, however, where, in the judgment of the mine Inspector of the district, any mine or part of mine is in such dangerous condition as to jeopardise life or health, he shall at once notify two of the mine Inspectors of the other districts, whereupon they shall at once proceed to the mine where the danger exists and examine into the

matter, and if, after full investigation thereof, they shall be agreed in the opinion that there is immediate danger, they shall instruct the superintendent of the mine in writing to remove such condition forthwith, and in case said superintendent shall fail to do, so then they shall apply, in the name of the Commonwealth, to the court of common pleas of the county, or in case the court shall not be in session, to a judge of the said court in chambers in which the mine may be located for an injunction to suspend all work in and about said mine, whereupon said court or judge shall at once proceed to hear, and determine speedily the same, and if the cause appear to be sufficient after hearing the parties and their evidences, as in like cases, shall issue its writ to restrain the working of said mine until all cause of danger is removed, and the cost of said proceedings shall be borne by the owner, lessee or agent of the mine: *Provided*, That if said court shall find the cause not sufficient, then the case shall be dismissed and the costs shall be borne by the county wherein said mine is located.

Article XII.

Inquests Et Cetera.

Section 1. Whenever, by reason of any explosion or other accidents in any bituminous coal mine or the machinery connected therewith, loss of life or serious personal injury shall occur, it shall be the duty of the person having charge of such mine to give notice thereof forthwith to the mine Inspector of the district and also to the coroner of the county, if any person is killed.

Section 2. If the coroner shall determine to hold an inquest, he shall notify the mine Inspector of the district of time and place of holding the same, who shall offer such testimony as he may deem necessary to thoroughly inform the said inquest of the cause of the death, and the said mine Inspector shall have authority at any time to appear before such coroner and jury and question or cross-question any witness, and in choosing a jury for the purpose of holding such inquest it shall be the duty of the coroner to empanel a jury, no one of which shall be directly or indirectly interested.

Section 3. It shall be the duty of the mine Inspector, upon being notified of any fatal accident as herein provided, to immediately repair to the scene of the accident and make such suggestions as may appear necessary to secure the safety of any persons who may be endangered, and if the results of the accident do not require an investigation by the coroner the said mine Inspector shall proceed to investigate and ascertain the cause of the accident and make a record thereof, which he shall file as provided for, and to enable him to make the investigation he shall have power to compel the attend-

ance of persons to testify, and to administer oaths or affirmations, and if it is found upon investigation that the accident is due to the violation of any provisions of this act by any person, other than those who may be deceased, the mine Inspector may institute proceedings against such person or persons as provided for in section two of article twenty-one of this act.

Section 4. The cost of such investigation shall be paid by the county in which the accident occurred in the same manner as costs of inquests held by the coroners or justices of the peace are paid.

Article XIII.

Neglect or Incompetence of Inspectors.

Section 1. The court of common pleas in any county or district, upon a petition signed by not less than fifteen reputable citizens, who shall be miners or operators of mines, and with the affidavit of one or more of said petitioners attached setting forth that any Inspector of mines neglects his duties or is incompetent or that he is guilty of a malfeasance in office, shall issue a citation in the name of the Commonwealth to the said mine Inspector to appear on not less than fifteen days' notice, upon a day fixed, before said court, at which time the court shall proceed to inquire into and investigate the allegations of the petitioners.

Section 2. If the court find that the said mine Inspector is neglectful of his duties or incompetent to perform the duties of his office or that he is guilty of malfeasance in office, the court shall certify the same to the Governor, who shall declare the office of said mine Inspector vacant and proceed in compliance with the provisions of this act to supply the vacancy; and the costs of said investigation shall, if the charges are sustained, be imposed upon the mine Inspector, but if the charges are not sustained, they shall be imposed upon the petitioners.

Article XIV.

Discretionary Powers of Inspectors, Arbitration Et Cetera.

Section 1. The mine Inspectors shall exercise a sound discretion in the enforcement of the provisions of this act, and if the operator, owner, miners, superintendent, mine foreman or other persons employed in or about the mine as aforesaid shall not be satisfied with any decision the mine Inspector may arrive at in the discharge of his duties under this act, which said decision shall be in writing signed by the mine Inspector, the said owner, operator, superintendent, mine foreman or other person specified above shall either promptly comply therewith or within seven days from date thereof appeal from

such decision to the court of quarter sessions of the county wherein the mine is located, and said court shall speedily determine the question involved in said decision and appeal and the decision of said court shall be binding and conclusive.

Section 2. The court or the judge of said court in chambers may in its discretion, appoint three practical, reputable, competent and disinterested persons whose duty it shall be, under instructions of the said court, to forthwith examine such mine or other cause of complaint and report under oath, the facts as they exist or may have been, together with their opinions thereon within thirty days after their appointment. The report of said board shall become absolute unless exceptions thereto shall be filed within ten days after the notice of the filing thereof by the owner, operator, mine superintendent, mine foreman, mine Inspector and other persons, as aforesaid, and if exceptions are filed the court shall at once hear and determine the same and the decision shall be final and conclusive.

Section 3. If the court shall finally sustain the decision of the mine Inspector then the appellate shall pay all costs of such proceedings, and if the court shall not sustain the decision of the mine Inspector then such costs shall be paid by the county: *Provided*, That no appeal from any decision made by any mine Inspector which can be immediately complied with shall work as a supersedeas to such decision during the pendency of such appeal, but all decisions shall be in force until reversed or modified by the proper court.

Article XV.

Examinations of Mine Foremen and Fire Bosses.

Section 1. On the petition of the mine Inspector the court of common pleas in any county in said district shall appoint an examining board of three persons, consisting of a mine Inspector, a miner and an operator or superintendent, which said miner shall have received a certificate of competency as mine foreman in mines generating explosive gases, and the members of said examining board shall be citizens of this Commonwealth, and the persons so appointed shall after being duly organized take and subscribe before an officer authoried to administer the same, the following oath, namely: "We, the undersigned do solemnly swear (or affirm) that we will perform the duties of examiners of applicants for the position of mine foremen and fire bosses of bituminous coal mines to the best of our abilities, and that in certifying or rejecting said applicants we will be governed by the evidence of the qualifications to fill the position under the law creating the same and not by any consideration of personal favor; that we will certify all whom we may find qualified and none others."

Section 2. The examining board shall examine any person applying thereto as to his competency and qualifications to discharge the duties of mine foreman or fire boss.

Applicants for mine foreman or fire boss certificates shall be at least twenty-three years of age, and shall have had at least five years' practical experience, after fifteen years of age, as miners, superintendent at or inside of the bituminous mines of Pennsylvania and shall be citizens of this Commonwealth and men of good moral character and of known temperate habits.

The said board shall be empowered to grant certificates of competency of two grades, namely: certificates of first grade, to persons who have had experience in mines generating explosive gases and who shall have the necessary qualifications to fulfill the duties of mine foreman in such mines; and certificates of second grade, to persons who give satisfactory evidence of their ability to act as mine foreman in mines not generating explosive gases.

Section 3. The said board of examiners shall meet at the call of the mine Inspector and shall grant certificates to all persons whose examination shall disclose their fitness for the duties of mine foreman as above classified, or fire boss, and such certificates shall be sufficient evidence of the holder's competency for the duties of said position so far as relates to the purposes of this act: *Provided*, That all persons holding certificates of competency granted under the provisions of the act to which this is a supplement shall continue to act under this act: *And provided further*, That any person acting as mine foreman upon a certificate of service under the act to which this is a supplement may continue to act in the same capacity at any mine where the general conditions affecting the health and safety of the persons employed do not differ materially from those at the mine in which he was acting when said certificate was granted: *Provided, however*, That if such a mine foreman leaves his present employer and secures employment elsewhere at any mine where in the judgment of the mine Inspector of the district the conditions affecting the health and safety of the persons employed do differ materially from those at the mine at which he was employed when his certificate was granted, it shall then be the duty of the mine Inspector of the district in which he has secured employment to serve written protest against such mine foreman's employment to the operator of said mine.

Section 4. The examining board shall hold their office for a period of four years from the date from their appointment and shall receive five dollars per day for each day necessarily employed and mileage at the rate of three cents per mile for each mile necessarily traveled, and all other necessary expenses connected with the examination

shall be paid by the Commonwealth. Each applicant before being examined shall pay the examining board the sum of one dollar, and one dollar additional for each certificate granted, which shall be for the use of the Commonwealth. The foregoing examination shall be held annually in each inspection district.

Article XVI.

Suspension of Certificates of Mine Foreman and Fire Bosses.

Section 1. No person shall act as fire boss in any bituminous coal mines, unless granted a certificate of competency by any one of the several examining boards. All applicants applying to any of the examining boards for fire boss certificates shall undergo an oral examination in the presence of explosive gas, and such certificate shall only be granted to men of good moral character and of known temperate habits, and it shall be unlawful for any operator or superintendent to employ any person as fire boss who has not obtained such certificate of competency as required by this act.

Section 2. If the mine foreman or fire boss shall neglect his duties or has incapacitated himself by drunkenness, or has been incapacitated by any other cause for the proper performance of said duties, and the same shall be brought to the knowledge of the operator or superintendent it shall be the duty of such operator or superintendent to discharge such delinquent at once and notify the Inspector of the district of such action, whereupon it shall be the duty of said Inspector to inform the court of common pleas of the county who shall issue a citation in the name of the Commonwealth to the said operator, superintendent, mine foreman or fire boss to appear at not less than fifteen days' notice upon a day fixed before said court, at which time the court shall proceed to inquire into and investigate the allegations. If the court finds that the allegations are true, it shall notify the examining board of such finding and instruct the said board to withdraw the certificate of such delinquent during any period of time that said court may deem sufficient, and at the expiration of such time he shall be entitled to a re-examination.

Article XVII.

Employment of Boys and Females.

Section 1. No boy under the age of twelve years, or any woman or girl of any age, shall be employed or permitted to be in the workings of any bituminous coal mine for the purpose of employment, or for any other purpose; and no boy under the age of sixteen shall be permitted to mine or load coal in any room, entry or other working

place, unless in company with a person over sixteen years of age. If the mine Inspector or mine foreman has reason to doubt the fact of any particular boy being as old as this act requires for the service which said boy is performing at any mine it shall be the duty of said mine Inspector or mine foreman to report the fact to the superintendent, giving the name of said boy, and the said superintendent shall at once discharge the said boy.

Article XVIII.

Stretchers.

Section 1. It shall be the duty of operators or superintendents to keep at the mouth of the drift, shaft, or slope, or at such other place about the mine as shall be designated by the mine Inspector, a stretcher properly constructed, and a woolen and a waterproof blanket in good condition for use in carrying away any person who may be injured at the mine: *Provided*, That where more than two hundred persons are employed two stretchers and two woolen and two waterproof blankets shall be kept. And in mines generating fire-damp a sufficient quantity of linseed or olive oil bandages and linen shall be kept in store at the mines for use in emergencies, and bandages shall be kept at all mines.

Article XIX.

Annual Reports.

Section 1. On or before the twenty-fifth day of January in each year the operator or superintendent of every bituminous coal mine shall send to the mine Inspector of the district in which said mine is located a correct report, specifying with respect to the year ending the thirty-first day of December preceding, the name of the operator and officers of the mine and the quantity of coal mined. The report shall be in such form and give such information regarding said mines as may be from time to time required and prescribed by the mine Inspector of the district. Blank forms for such reports shall be furnished by the Commonwealth.

Article XX.

RULES GENERAL AND SPECIAL.

Additional Duties of Mine Foreman.

Section 1. *Rule* 1. The mine foreman shall attend personally to his duties in the mine and carry out all the instructions set forth in this act and see that the regulations prescribed for each class of work-

men under his charge are carried out in the strictest manner possible, and see that any deviations from or infringements of any of them are promptly adjusted.

Rule 2. He shall cause all stoppings along the airways to be properly built.

Rule 3. He shall see that the entries at such places where road grades necessitate sprags or brakes to be applied or removed shall have a clear level width of not less than two and one-half feet, between the side of car and the rib to allow the driver to pass his trip safely and keep clear of the cars there.

Rule 4. He shall direct that all miners undermine the coal properly before blasting it and that blasting shall be done at only such hours as he shall direct and shall order the miners to set sprags under the coal, when necessary for safety while undermining at distances not exceeding seven feet apart, and he shall not allow the improper drawing of pillars.

Rule 5. In mines where fire-damp is generated when the furnace fire has been put out it shall not be relighted, except in his presence, or that of his assistant acting under his instructions.

Rule 6. In case of accident to a ventilating fan or its machinery, or to the fan itself, whereby the ventilation of the mine would be seriously interrupted it shall be his duty to order the men to immediately withdraw from the mine and not allow their return to their work until the ventilation has been restored and the mine has been thoroughly examined by him or his assistant and reported to be safe.

Rule 7. He shall see that all dangerous places are properly fenced off and proper danger signal boards so hung on such fencing, that they may be plainly seen; he shall also travel all air roads and examine all the accessible openings to old workings as often as is necessary to insure their safety.

Rule 8. He shall provide a book or sheet to be put in some convenient place, or places, upon which shall be made a place for the numbers used by the miners with space sufficient to each number, so that the miners can write plainly the quantity of props, their approximate length and the number of caps and other timbers which they require, together with the date of the order. Said book or sheets shall be preserved for thirty days from their date.

Duties of Fire Boss.

Rule 9. He shall enter the mine before the men have entered it, and before proceeding to examine the same, he shall see that the air current is traveling in its proper course, and if all seems right, he shall proceed to examine the workings.

Rule 10. He shall not allow any person, except those duly authorized, to enter or remain in any part of the mine through which a dangerous accumulation of gas is being passed in the ventilating current from any other part of the mine.

Rule 11. He shall frequently examine the edge and accessible parts of new falls and old gobs and air courses and he shall report at once any violation of this act to the mine foreman.

Duties of Miners.

Rule 12. He shall examine his working place before beginning work and take down all dangerous slate, or otherwise make it safe by properly timbering the same before commencing to dig or load coal, and in mines where fire bosses are employed, he shall examine his place to see whether the fire boss has left the proper marks indicating his examination thereof, and he shall at all times be very careful to keep his working place in a safe condition during working hours.

Rule 13. Should he at any time find his place becoming dangerous either from gas or roof, or from any unusual condition which may have arisen, he shall at once cease working, and inform the mine foreman or his assistant of such danger, and before leaving such place he shall place some plain warning at the entrance thereto to warn others from entering into the danger.

Rule 14. It shall be the duty of every miner to mine his coal properly and to set sprags under the coal while undermining to secure it from falling and, after each blast, he shall exercise great care in examining the roof and coal and shall secure them safely before beginning work.

Rule 15. When places are liable to generate sudden volumes of firedamp, or where locked safety lamps are used, no miner shall be allowed to fire shots except under the supervision and with the consent of the mine foreman, or his assistant, or other competent person designated by the mine foreman for that purpose.

Duties of Drivers.

Rule 16. When a driver has occasion to leave his trip he must be careful to see that it is left, when possible, in a safe place, secure from cars or other dangers, or from endangering drivers of trip following.

Rule 17. The driver must take great care while taking his trips down grades to have the brakes or sprags so adjusted that he can keep the cars under control and prevent them from running onto himself or others.

Rule 18. He shall not leave any cars standing where they may

materially obstruct the ventilating current, except in case of accident to the trip.

Duties of Trip Riders or Runners.

Rule 19. He shall exercise great care in seeing that all hitchings are safe for use and see that all the trip is coupled before starting, and should he at any time see any material defect in the rope, link or chain, he shall immediately remedy such defect or, if unable to do so, he shall detain the trip and report the matter to the mine foreman.

Duties of Engineer.

Rule 20. It shall be the duty of the engineer to keep a careful watch over his engine and all machinery under his charge and see that the boilers are properly supplied with water, cleaned and inspected at proper intervals, and that the steam pressure does not exceed at any time the limit allowed by the superintendent.

Rule 21. He shall make himself acquainted with the signal codes provided for in this act.

Rule 22. He shall not allow any unauthorized person to enter the engine house, neither shall he allow any person to handle or run the engine, without the permission of the superintendent.

Rule 23. When workmen are being raised or lowered he shall take special precautions to keep the engine well under control.

Rule 24. The locomotive engineer must keep a sharp look out ahead of his engine and sound the whistle or alarm bell frequently when coming near the partings or landings; he must not exceed the speed allowed by the mine foreman or superintendent. He must not allow any person except his attendants, to ride on the engine or on the full cars.

Duties of Firemen.

Rule 25. Every fireman and other person in charge of a boiler or boilers for the generation of steam shall keep a careful watch of the same; he shall see that the steam pressure does not at any time exceed the limit allowed by the superintendent; he shall frequently try the safety-valve and shall not increase the weight on the same; he shall maintain a proper depth of water in each boiler, and if anything should happen to prevent this, he shall report the same without delay to the superintendent, or other person designated by the superintendent, and take such other action as may, under the particular circumstances, be necessary for the protection of life and the preservation of property.

Duties of Fan Engineer.

Rule 26. The engineer in charge of any ventilating fan must keep it running at such speed as the mine foreman directs in writing. In case of accident to the boiler or fan machinery, not requiring the immediate withdrawal of the men from the mine by reason of serious interruption of the ventilation, he shall invariably notify the mine foreman. If ordinary repairs of the fan or machinery becomes necessary, he must give timely notice to the mine foreman and await his instructions before stopping it. He shall also examine at the beginning of each shift all the fan bearings, stays and other parts, and see that they are kept in proper working order. Should it become impossible to run the fan or necessary to stop it to prevent destruction, he shall then at once stop it and notify the mine foreman immediately and give immediate warning to persons in the mine.

Duties of Furnacemen.

Rule 27. The furnace man must attend to his duties with regularity, and in case he should be likely to be off work for any reason whatever, he must give timely notice to the mine foreman.

Rule 28. The furnace man must at all times keep a clear, brisk fire and the fire must not be smothered with coal or slack during working hours, nor shall he allow ashes to accumulate excessively on or under the bars, or in the approaches to the furnace, and ashes shall be cooled before being removed.

Rule 29. The furnace man must promptly obey the instructions of the mine foreman.

SHAFTS AND SLOPES.

Duties of Hookers-On.

Rule 30. The hookers-on at the bottom of any slope shall be very careful to see that the cars are properly coupled to a rope or chain and that the safety-catch or other device is properly attached to the car before giving the signal to the engineer.

Duties of Cagers.

Rule 31. The cager at the bottom of any shaft shall not attempt to withdraw the car until the cage comes to rest, and when putting the full car on the cage he must be very careful to see that the springs or catches are properly adjusted so as to keep the car in its proper place before giving the signal to the engineer.

Rule 32. At every shaft or slope mine in which provision is made in this act for lowering and hoisting persons, a headman and footman

shall be designated by the superintendent or mine foreman, who shall be at their proper places from the time that persons begin to descend until all the persons who may be at the bottom of said shaft or slope, when quitting work, shall be hoisted; such headman and footman shall personally attend to the signals and see that the provisions of this act in respect to lowering or hoisting persons in shafts or slopes shall be complied with.

Rule 33. He shall not allow any tools to be placed on the same cage with men or boys, nor on either cage when persons are being hoisted out of the mine, or being lowered into the mine, except when for the purpose of repairing the shaft or machinery therein. The men shall place their tools in cars provided for that purpose which car, or cars, shall be hoisted or lowered before and after the men have been hoisted or lowered. And he shall immediately inform the mine foreman of any violation of this rule.

Rule 34. He shall also see that no driver, or other person, ascends the shaft with any horse or mule, unless the said horse or mule is secured in a suitable box, or safely penned, and only the driver in charge of said horse or mule shall accompany it in any case.

Duties of Top Man.

Rule 35. The top man of any slope, or incline plane, shall be very careful to close the safety block, or other device, as soon as the cars have reached the landing so as to prevent any loose or runaway cars from descending the slope, or incline plane, and in no case shall such safety block, or other device, be withdrawn until the cars are coupled to the rope or chain and the proper signal given. He shall carefully inspect daily all the machinery in and about the check house, and the rope used for lowering the coal and promptly report any defect discovered to the superintendent, and shall use great care in attaching securely the wagons or cars to the rope and carefully lower the same down the incline. He shall ring the alarm bell in case of accident, and when necessary immediately set free to act, the drop logs or safety switch.

Rule 36. The top man of any shaft shall see that the springs or keeps for the cage to rest upon are kept in good working order, and when taking the full car off he must be careful that no coal or other material is allowed to fall down the shaft.

Rule 37. He shall be at his proper place from the time that persons begin to descend until all the persons who may be at the bottom of said shaft or slope when quitting work shall be hoisted. Such headman and footman shall personally attend to the signals, and see that the provisions of this act in respect to lowering and hoisting persons in shafts or slopes shall be complied with.

Rule 38. He shall not allow any tools to be placed on the same cage with men or boys, nor on either cage when persons are being lowered into the mine, except when for the purpose of repairing the shaft or the machinery therein. The men shall place their tools in cars provided for that purpose, which car or cars shall be lowered before and after the men have been lowered.

Rule 39. He shall also see that no driver, or other person, descends the shaft with any horse or mule unless the said horse or mule is secured in a suitable box or safely penned, and only the driver in charge of said horse or mule shall accompany it in any case.

General Rules.

Rule 40. If any person shall receive any injury in or about the mine and the same shall come within the knowledge of the mine foreman, and if he shall be of the opinion that the injured person requires medical or surgical treatment, he shall see that said injured person receives the same, and in case of inability of such injured person to pay therefor the same shall be borne by the county. The mine foreman shall report monthly to the mine Inspector of the district on blanks furnished by said Inspector for that purpose, all accidents resulting in personal injury.

Rule 41. No unauthorized person shall enter the mine without permission from the superintendent or mine foreman.

Rule 42. No person in a state of intoxication shall be allowed to go into or loiter about the mine.

Rule 43. All employes shall inform the mine foreman or his assistant of the unsafe condition of any working place, hauling roads or traveling ways, or of damage to doors, brattices or stoppings, or of obstructions in the air passages when known to them.

Rule 44. No person shall be employed to blast coal, rock or slate, unless the mine foreman is satisfied that such a person is qualified by experience to perform the work with ordinary care.

Rule 45. The mine superintendent or mine foreman shall cause to be constructed safety blocks or some other device for the purpose of preventing cars from falling into the shaft, or running away on slopes or incline planes; and safety switches, drop logs or other device shall be used on all slopes and incline planes; and said safety blocks, safety switches or other device must be maintained in good working order.

Rule 46. Every workman employed in the mine shall examine his working place before commencing work, and after any stoppage of work during the shift he shall repeat such examination.

Rule 47. No person shall be allowed to travel on foot to or from

his work on any incline plane, dilly or locomotive roads, when other good roads are provided for that purpose.

Rule 48. Any employe or other person who shall wilfully deface, pull down or destroy any notice board, danger signal, general or special rules or mining laws, shall be prosecuted as provided for in section two, article twenty-one of this act.

Rule 49. No powder or high explosive shall be taken into the mine in greater quantities than required for use in one shift, unless such quantity be less than five pounds, and all powder shall be carried into the mine in metallic canisters.

Rule 50. Powder in quantities exceeding twenty-five pounds, or other explosives in quantities exceeding ten pounds, shall not be stored in any tipple or any weighing office, nor where workmen have business to visit, and no naked lights shall be used while weighing and giving out powder.

Rule 51. All persons except those duly authorized, are forbidden to meddle or tamper in any way with any electric or signal wires in or about the mines.

Rule 52. No greater number of person shall be hoisted or lowered at any one time in any shaft than is permitted by the mine Inspector, and whenever said number of persons shall arrive at the bottom of the shaft in which persons are regularly hoisted or lowered, they shall be furnished with an empty cage and be hoisted, and in cases of emergency a less number shall be promptly hoisted. Any person or persons crowding or pushing to get on or off the cages shall be deemed guilty of a misdemeanor.

Rule 53. Each workman, when engaged shall have his attention directed to the general and special rules by the person employing him.

Rule 54. Workmen and all other persons are expressly forbidden to commit any nuisance or throw into, deposit, or leave coals or dirt, stones or other rubbish in the air way or road so as to interfere with, pollute or hinder the air passing into and through the mine.

Rule 55. No one, except a person duly authorized by the mine foreman, shall have in his possession a key or other instrument for the purpose of unlocking any safety lamp in any mine where locked safety lamps are used.

Rule 56. Every abandoned slope, shaft, air hole or drift shall be properly fenced around or across its entrance.

Rule 57. No safety lamps shall be entrusted to any person for use in mines until he has given satisfactory evidence to the mine foreman that he understands the proper use thereof and danger of tampering with the same.

Rule 58. No person shall ride upon or against any loaded car or cage in any shaft or slope in or about any bituminous coal mine;

no person other than the trip runner shall be permitted to ride on empty trips on any slope, inclined plane or dilly road, when the speed of the cars exceeds six miles per hour. The transportation of tools in and out of the mines shall be under the direction of the mine foreman.

Rule 59. No persons other than the drivers or trip runners shall be permitted to ride on the full cars.

Rule 60. In mines where coal dust has accumulated to a dangerous extent, care shall be exercised to prevent said dust from floating in the atmosphere by sprinkling it with water, or otherwise, as far as practicable.

Rule 61. In cutting of clay veins, spars or faults in entries, or other narrow workings going into the solid coal in mines where explosive gases are generated in dangerous quantities, a bore-hole shall be kept not less than three feet in advance of the face of the work, or an advance of any shot hole drilled for a blast to be fired therein.

Rule 62. The engineer placed in charge of an engine whereby persons are hoisted out of or lowered into any mine shall be a sober competent person, and not less than twenty-one years of age.

Rule 63. When a workman is about to fire a blast he shall be careful to notify all persons who might be endangered thereby, and shall give sufficient alarm so that any person or persons approaching shall be warned of the danger.

Rule 64. In every shaft or slope where persons are hoisted or lowered by machinery, as provided by this act, a topman and cager shall be appointed by the superintendent or mine foreman.

Rule 65. Whenever a workman shall open a box containing powder or other explosives, or while in any manner handling the same, he shall first place his lamp not less than five feet from such explosive and in such a position that the air current cannot convey sparks to it, and he shall not smoke while handling explosives.

Rule 66. An accumulation of gas in mines shall not be removed by brushing.

Rule 67. When gas is ignited by blast or otherwise, the person having charge of the place where the said gas is ignited, shall immediately extinguish it if possible, and if unable to do so shall immediately notify the mine foreman or his assistant of the fact. Workmen must see that no gas blowers are left burning upon leaving their working places.

Rule 68 All ventilating fans used at mines shall be provided with recording instruments by which the number of revolutions or the effective ventilating pressure of the fan shall be registered and the registration with its date for each and every day shall be kept in the office of the mine for future reference for one year from its date.

Rule 69. Where the clothing or wearing apparel of employes becomes wet by reason of working in wet places in the mines, it shall be the duty of the operator or superintendent of each mine, at the request in writing of the mine Inspector, who shall make such request upon the petition of any five miners of any one mine in the district working in the aforesaid wet places, to provide a suitable building which shall be convenient to the principal entrances of such mine for the use of the person employed in wet places therein for the purpose of washing themselves and changing their clothes when entering the mine and returning therefrom. The said building shall be maintained in good order and be properly lighted and heated and shall be provided with facilities for persons to wash. If any person or persons shall neglect or fail to comply with the provisions of this article or maliciously injure or destroy, or cause to be injured or destroyed, the said building or any part thereof, or any of the appliances or fittings used for supplying light and heat therein, or doing any act tending to the injury or destruction thereof, he or they shall be deemed guilty of an offense against this act.

Rule 70. In all shafts and slopes where persons, coal or other materials are hoisted by machinery the following code of signals shall be used:

One rap or whistle to hoist coal or other material.

One rap or whistle to stop cage or car when in motion.

Two raps or whistles to lower cage or car.

Three raps or whistles when persons are to be hoisted, and for engineer to signal back ready when persons are to be hoisted, after which persons shall get on the cage or car, then one rap shall be given to hoist.

Four raps or whistles, to turn on steam to the pumps.

But a variation from the above code of signals may be used by permission of the mine Inspector: *Provided*, That in any such case such changed code shall be printed and posted.

Rule 71. No person or persons shall go into any old shaft or abandoned part of the mine or into any other place which is not in actual course of working without permission from the mine foreman, nor shall they travel to and from their work except by the traveling way assigned for that purpose.

Rule 72. No steam pipes through which high pressure steam is conveyed for the purpose of driving pumps or other machinery, shall be permitted on traveling or haulage ways, unless they are encased in asbestos, or some other suitable non-conducting material, or are so placed that the radiation of heat into the atmosphere of the mine will be prevented as far as possible.

Rule 73. Where a locomotive is used for the purpose of hauling

coal out of a mine, the tunnel or tunnels through which the locomotive passes shall be properly ventilated and kept free as far as practicable of noxious gases, and a ventilating apparatus shall be provided by the operator to produce such ventilation when deemed necessary and practicable to do so by the mine Inspector.

Rule 74. No inexperienced person shall be employed to mine out pillars unless in company with one or more experienced miners, and by their consent.

Article XXI.

Penalties.

Section 1. Any person or persons whomsoever, who shall intentionally or carelessly injure any shaft, safety lamp, instrument, aircourse or brattice, or obstruct or throw open air ways, or take matches for any purpose, or pipes or other smokers' articles beyond any station inside of which locked safety lamps are used, or injure any part of the machinery, or open a door in the mine and not close it again immediately or open any door which opening is forbidden, or disobey any order given in carrying out the provisions of this act, or do any other act whatsoever whereby the lives or the health of persons or the security of the miners or the machinery is endangered, shall be deemed guilty of a misdemeanor and may be punished in a manner provided for in this article.

Section 2. The neglect or refusal to perform the duties required to be performed by any section of this act by the parties therein required to perform them, or the violation of any of the provisions or requirements hereof, shall be deemed a misdemeanor and shall upon conviction thereof in the court of quarter sessions of the county wherein the misdemeanor was committed, be punishable by a fine not exceeding five hundred dollars or imprisonment in the county jail for a period not exceeding six months, or both, at the discretion of the court.

Section 3. That for any injury to person or property occasioned by any violation of this act, or any failure to comply with its provisions by any owner, operator or superintendent of any coal mine or colliery, a right of action shall accrue to the party injured against said owner or operator for any direct damages he may have sustained thereby, and in case of loss of life by reason of such neglect or failure aforesaid, a right of action shall accrue to the widow and lineal heirs of the person whose life shall be lost for like recovery of damages for the injury they shall have sustained.

Article XXII.

Definition.

Section 1. *Coal Mine.* In this act the term "coal mine" includes the shafts, slopes, adits, drifts or inclined planes connected with excavations penetrating coal stratum or strata, which excavations are ventilated by one general air current or divisions thereof and connected by one general system of mine railroads over which coal may be delivered to one or more common points outside the mine, when such is operated by one operator.

Excavations and Workings. The term "excavations and workings" includes all the excavated parts of a mine, those abandoned as well as the places actually being worked, also all underground workings and shafts, tunnels and other ways and openings, all such shafts, slopes, tunnels and other openings in the course of being sunk or driven, together with all roads, appliances, machinery and material connected with the same below the surface.

Shaft. The term "shaft" means a vertical opening through the strata, and which is or may be used for the purpose of ventilation or drainage or for hoisting men or material or both in connection with the mining of coal.

Slope. The term "slope" means an incline way or opening used for the same purpose as a shaft.

Operator. The term "operator" means any firm, corporation or individual operating any coal mine or part thereof.

Superintendent. The term "superintendent" means the person who shall have, on behalf of the operator, immediate supervision of one or more mines.

Bituminous Mines. The term "bituminous" coal mines shall include all coal mines in the State not now included in the anthracite boundaries.

The provisions of this act shall not apply to any mine employing less than ten persons in any one period of twenty-four hours.

Article XXIII.

Section 1. That all acts or parts of acts inconsistent herewith be and the same are hereby repealed.

Approved—The 15th day of May, A. D. 1893.

ROBT. E. PATTISON.

AN ACT

Equalizing and fixing the compensation and mileage of the members of the several boards appointed under the provisions of the act approved June second, one thousand eight hundred and ninety-one, to examine candidates for appointment as Inspectors, foremen and fire bosses, respectively, in the anthracite coal mines, and providing for the employment and compensation and mileage of a clerk to each of said boards.

Section 1. Be it enacted, &c., That from and after the passage of this act the members of the several boards appointed under the provisions of the act approved June second, one thousand eight hundred and ninety-one, to examine candidates for appointment respectively as Inspectors and foremen of anthracite coal mines, shall receive in lieu of all compensation, mileage, expenses, emoluments or allowances heretofore paid them, as follows: Six dollars per day for each day during which the said members shall be actually in attendance on the sessions of the board, and mileage at the rate of five cents for each mile actually traveled going from the home of the member to the place of meeting of the board and returning from said place to his said home by the shortest practicable railway route: Provided, That mileage shall be paid but once for each continuous session of the board, and by a continuous session shall be meant a session during the course of which no adjournment for a longer period than forty-eight hours shall take place.

Section 2. Each of the boards enumerated or described in the first section of this act shall be and the same is hereby authorized to employ a clerk, whose compensation and mileage shall be the same as that of a member of the board. So much of section four of the act of June second, one thousand eight hundred and ninety-one, as authorizes the boards of examiners of candidates for Inspectors of anthracite coal mines to engage the services of a clerk is hereby repealed, and all clerks hereafter appointed by the several boards hereinbefore mentioned shall be appointed under the provisions of this act.

Section 3. The members of the said boards shall, on the final adjournment of each session of their respective boards, submit to the Auditor General sworn statements approved by the president or chairman of their respective boards, setting forth the number of days during which each member shall have been actually in attendance on the sessions of the board of which he is a member during said session, as well as the distance from the home of the member to the place of meeting of his board as aforesaid, by the nearest practicable railway route, and the number of miles actually traveled by him; and the clerks of said boards shall submit like statements, and the Auditor General shall, upon the receipt of such sworn state-

ments draw his warrant upon the State Treasurer in favor of each of such members and clerks for such sums as shall appear to be properly due each.

Section 4. All acts and parts of acts or supplements thereto in conflict herewith are hereby repealed.

Approved—The 26th day of June, A. D. 1895.

DANIEL H. HASTINGS.

Harrisburg, July 27th, 1897.

By reason of the delay in the State Printing Office in printing the report of the Bureau of Mines, the department is enabled to publish as a supplement to other legislation, the additional legislation passed at the session of 1897. Probably no more important legislation in regard to the mining interests, with reference to operators and miners, has been passed than that relating to the establishment of a Bureau of Mines in this department. It has become known throughout the State as the "Coyle bill," Senator Coyle, of Schuylkill county, having used his utmost endeavors to secure its passage by the legislature, and approval by the Governor. It is substantially the same bill recommended by the department and published with the preliminary remarks in this report. The Coyle bill, together with the one relating to the weighing of bituminous coal, and the one prohibiting the employment of incompetent miners, is self-explanatory. If properly executed the measures will certainly contribute to the lessening of liability to accident of persons employed in the mining industry in this Commonwealth.

AN ACT

Establishing a Bureau of Mines in the Department of Internal Affairs of Pennsylvania, defining its purposes and authority, providing for the appointment of a chief of said bureau and assistants, and fixing their salaries and expenses.

Section 1. Be it enacted, &c., That there is hereby established in the Department of Internal Affairs of Pennsylvania a bureau to be known as the Bureau of Mines, which shall be charged with the supervision of the execution of the mining laws of this Commonwealth, and the care and publication of the annual reports of the Inspectors of coal mines.

Section 2. The chief officer of said bureau shall be denominated Chief of the Bureau of Mines, and shall be appointed by the Governor, by and with the advice and consent of the Senate, within thirty days after the final passage of this act, and every four years thereafter, who shall be commissioned by the Governor to serve a term of four years from the date of his appointment, and until his successor is duly qualified, and shall receive an annual salary of three thousand dollars and traveling expenses; and in case of a vacancy in the office of Chief of said Bureau, by reason of death, resignation or otherwise, the Governor shall appoint a qualified person to fill such vacancy for the unexpired balance of the term.

Section 3. The Chief of the Bureau of Mines shall be a competent person having had at least ten years practical experience in the working and ventilation of coal mines of this State, and a practical and scientific knowledge of all noxious and dangerous gases found

in such mines. The said Chief of the Bureau of Mines so appointed shall, before entering upon the duties of his office, take and subscribe to the oath of office prescribed by the Constitution, the same to be filed in the office of the Secretary of the Commonwealth, and give to the Commonwealth a bond in the penal sum of ten thousand dollars, with surety to be approved by the Governor and Secretary of Internal Affairs, conditioned for the faithful discharge of the duties of his office.

Section 4. It shall be the duty of the Chief of the Bureau to devote the whole of his time to the duties of his office, and to see that the mining laws of this State are faithfully executed; and for this purpose he is hereby invested with the same power and authority as the Mine Inspectors to enter, inspect and examine any mine or colliery within the State, and the works and machinery connected therewith, and to give such aid and instruction to the Mine Inspectors from time to time as he may deem best calculated to protect the health and promote the safety of all persons employed in and about the mines, and the said Chief of the Bureau of Mines shall have the power to suspend any Mine Inspector for any neglect of duty, but such suspended Mine Inspector shall have the right to appeal to the Secretary of Intenal Affairs, who shall be empowered to approve of such suspension or restore such suspended Mine Inspector to duty, after investigating the causes which led to such suspension. Should the Chief of the Bureau of Mines receive information by petition, signed by ten or more miners, or one or more operators, setting forth that any of the Mine Inspectors are neglectful of their duty, or are incompetent to perform the duties of their office, or are guilty of malfeasance in office, he shall at once investigate the matter, and if he shall be satisfied that the charge or charges are well founded, he shall then petition the court of common pleas, or the judge in chambers, in any county within or partly within the inspection district of the said Mine Inspector; which court, upon receipt of said petition and a report of the character of the charges and testimony produced, shall at once issue a citation in the name of the Commonwealth to the said Inspector, to appear on not less than fifteen days notice, on a fixed day before said court, at which time the court shall proceed to inquire into the allegations of the petitioners, and may require the attendance of such witnesses on subpoena issued and served by the proper officer or officers, as the judge of the court and the Chief of said Bureau may deem necessary in the case; the Inspector under investigation shall also have similar power and authority to compel the attendance of witnesses in his behalf. If the court shall find by said investigation that the said Mine Inspector is guilty of neglecting his official duties, or is

incompetent to perform the duties of his office, or is guilty of malfeasance in office, the said court shall certify the same to the Governor, who shall declare the office vacant, and shall proceed to supply the vacancy as provided for by the mining laws of this State. The cost of said investigation shall, if the charges are sustained, be imposed upon the Mine Inspector, but if the charges are not sustained the cost shall be paid out of the State Treasury, upon voucher or vouchers duly certified as to correctness by the judge or proper officer of the court where such proceedings are held. To enable the said Chief of the Bureau of Mines to conduct more effectually his examinations and investigations of the charges and complaints which may be made by petitioners against any of the Mine Inspectors as herein provided, he shall have power to administer oaths and take affidavits and depositions in form and manner provided by law: Provided, however, That nothing in this section shall be construed as to repeal section thirteen of article two of the act of Assembly approved the second day of June, Anno Domini one thousand eight hundred and ninety-one, entitled "An act to provide for the health and safety of persons employed in and about the anthracite coal mines of Pennsylvania, and for the protection and preservation of property connected therewith," and also articles thirteen and fourteen of an act of Assembly approved the fifteenth day of May, Anno Domini one thousand eight hundred and ninety-three, entitled "An act relating to bituminous coal mines, and providing for the lives, health, safety and welfare of persons employed therein."

Section 5. It shall be the duty of the Chief of the Bureau of Mines to take charge of and preserve in his office the annual reports of the Mine Inspectors, and transmit a copy of them, together with such other statistical data compiled therefrom and other matter relating to the work of the Bureau as may be of public interest, properly addressed to the Secretary of Internal Affairs for transmission to the Governor and the General Assembly of this Commonwealth, on or before the first day of March in each year. It shall also be the duty of the Chief of the Bureau of Mines to see that said reports, or copy of them, are placed in the hands of the Public Printer for publication at the same date; the same to be published under direction of the Secretary of Internal Affairs as other reports of his department are now required by law to be published, and in order that the Chief of said Bureau may be able to prepare, compile and transmit his annual report to the Secretary of Internal Affairs within the time herein specified, the Mine Inspectors are hereby required to deliver their annual reports to the Secretary of Internal Affairs on or before the fifteenth day of February in each year. In addition to the annual reports herein required of the Mine

Inspectors, the said Mine Inspectors shall furnish the Chief of the Bureau of Mines, monthly and also such special reports or information on any subject regarding mine accidents or other matters pertaining to mining interests, or the safety of persons employed in mine, as he at any time may require or may deem necessary in the proper and lawful discharge of his official duties. The Chief of the Bureau of Mines shall also establish as far as may be practicable a uniform style and size of blanks for the annual, monthly and special reports of the Mine Inspectors, and prescribe the form and character of subject matter to be embraced in the text and the tabulated statements of their reports. The Chief of the Bureau of Mines is hereby authorized to make such examinations and investigations as may enable him to report upon the various systems of coal mining practiced in the State, method of mining, ventilation, machinery employed, structure and character of the several coal seams operated, and of the associated strata, the circumstances and responsibility of mine accidents, economy of coal production, coal waste, area and exhaustion of coal territory, and such other matters as may pertain to the general welfare of coal miners and others connected with coal mining, and the interests of coal mine owners and operators in this Commonwealth.

Section 6. The Chief of the Bureau of Mines shall keep in his office a journal or record of all examinations made and work done under his administration, and copies of all official communications, and is hereby authorized to procure such books, instruments and chemical or other tests as may be found necessary to the proper discharge of his duties under this act, at the expense of the State. All instruments, plans, books and records pertaining to the office shall be the property of the State, and shall be delivered to his successor in office.

Section 7. The Chief of the Bureau of Mines shall at all times be accountable to the Secretary of Internal Affairs for the faithful discharge of the duties imposed upon him by law, and the administration of his office and the rules and regulations pertaining to said bureau shall be subject to the approval of the Secretary of Internal Affairs, who is hereby empowered to appoint an assistant to the chief of the bureau, at a salary of fourteen hundred dollars per annum, and a messenger at a salary of three hundred dollars per annum: And provided further, That the salaries of the Chief of the Bureau of Mines, his assistant and the messenger, shall be paid out of the State Treasury in the manner as other employes of the Department of Internal Affairs are now paid: Provided, That the Chief of said Bureau of Mines may be removed or suspended at any time by the Secretary of Internal Affairs, when

in the opinion of said Secretary there has been a neglect of duty or a failure to comply with the law, or the instructions of the Secretary of Internal Affairs.

Section 8. No person who is acting as a land agent, or as manager, viewer or agent of any mine or colliery, or who is interested in operating any mine or colliery, shall at the same time serve as Chief of the Bureau of Mines under the provisions of this act.

Section 9. That the Mine Inspector of each district of this State shall, within six months after the final passage and approval of this act, deposit in the Bureau of Mines an accurate map or plan of such coal mine, which may be on tracing muslin or sun print, drawn to a prescribed scale; which map or plan shall show the actual location of all openings, excavations, shafts, tunnels, slopes, planes, main headings, cross headings, and rooms or working places in each strata operated; pump, fans or other ventilation apparatus, the entire course and direction of air currents, the relation and proximity of the workings of such coal mines to all other adjoining mines or coal lands, and the relative elevation of all tunnels and headings, and of the face of working places near to or approaching boundary lines or adjacent mines; and on or before the close of each calendar year transmit to the Chief of the Bureau of Mines a supplemental map or plan showing all excavations, changes and additions made in such mine during the year, drawn to the scale as the first mentioned map or plan. All such maps or plans to be and remain in the Bureau of Mines as a part of the records of that office.

Section 10. All acts or parts of acts inconsistent with this act be and the same are hereby repealed.

Approved—The 15th day of July, A. D. 1897.

DANIEL H. HASTINGS.

The foregoing is a true and correct copy of the act of the General Assembly No. 221.

AN ACT

Requiring the weighing of bituminous coal before screening, and providing a penalty for the violation thereof.

Section 1. Be it enacted, &c., That it shall be unlawful for any mine owner, lessee or operator of any bituminous coal mine in this Commonwealth, employing miners at bushel or ton rates, or other quantity, to pass the output of coal mined by said miners over any screen or other device which shall take any part from the weight, value or quantity thereof, before the same shall have been weighed and duly credited to the employe sending the same to the surface and accounted for at the legal rate of weight fixed by laws of this Commonwealth.

Section 2. Any owner, lessee or operator of any bituminous coal mine, violating the provisions of this act, shall be deemed guilty of a misdemeanor, and shall, upon conviction, for each and every such offense be punished by a fine of not less than one hundred ($100) dollars nor more than five hundred ($500) dollars, or by imprisonment in the county jail for a period not to exceed ninety days, or by both such fine and imprisonment, at the discretion of the court; proceedings to be instituted in any court of competent jurisdiction.

Section 3. All acts or parts of acts inconsistent herewith be and the same are hereby repealed.

Approved—The 15th day of July, A. D. 1897.

DANIEL H. HASTINGS

The foregoing is a true and correct copy of the act of the General Assembly No. 224.

AN ACT

To protect the lives and limbs of miners from the dangers resulting from incompetent miners working in the anthracite coal mines of this Commonwealth, and to provide for the examination of persons seeking employment as miners in the anthracite region, and to prevent the employment of incompetent persons as miners in anthracite coal mines, and providing penalties for a violation of the same.

Section 1. Be it enacted, &c., That hereafter no person whomsoever shall be employed or engaged in the anthracite coal region of this Commonwealth, as a miner in any anthracite coal mine, without having obtained a certificate of competency and qualification so to do from the "Miners Examining Board" of the proper district, and having been duly registered as herein provided.

Section 2. That there shall be established in each of the eight inspection districts in the anthracite coal region, a board to be styled the "Miners Examining Board" of the .... district, to consist of nine miners who shall be appointed in the same manner as the boards to examine mine Inspectors are now appointed from among the most skillful miners actually engaged in said business in their respective districts, and who must have had five years practical experience in the same. The said persons so appointed shall each serve for a term of two years from the date on which their appointment takes effect, and they shall be appointed upon or before the expiration of the term of the present members of the "Miners Examining Board," and they shall be and constitute the "Miners Examining Board" for their respective districts, and shall hold the office for the term for which they were appointed, or until their successors are duly appointed and qualified, and shall receive as compensation for their services three dollars per day for each day actually engaged in this service, and all legitimate and necessary expenses incurred in attending the meetings of said board under the provisions of this act, and no part of the salary of said board or expenses thereof shall be paid out of the State Treasury.

Each of said boards shall organize by electing one of their members president, and one member as secretary, and by dividing themselves into three sub-committees for the more convenient discharge of their duties, each of said committees shall have all powers hereinafter conferred upon the board; and whenever in this act the words "Examining Board" are used, they shall be taken to include any of the committees thereof.

Every member of said board shall, within ten days of their appointment or being apprised of the same, take and subscribe an oath or affirmation before a properly qualified officer of the county in which they reside, that they will faithfully and impartially discharge the duties of their office.

Any vacancies occurring in said board shall be filled in the manner hereinbefore provided from among such only as are eligible for original appointment.

Section 3. Each of said examining boards shall designate some convenient place within their districts for the meeting of the several committees thereof, of which due notice shall be given by advertisement in two or more newspapers of the proper county, and so divided as to reach as nearly as practicable all the mining districts therein; but in no case shall such meeting be held in a building where any intoxicating liquors are sold.

Each of said committees shall open at the designated place of meeting a book of registration, in which shall be registered the name and address of each and every person duly qualified under this act to be employed as a miner in an anthracite coal mine. And it shall be the duty of all persons employed as miners to be properly registered, and in case of a removal from the district in which a miner is registered, it shall be his duty to be registered in the district to which he removes.

Application for registration only may be sent by mail to the board, after being properly attested before any person authorized to administer an oath or affirmation in the county in which the applicant resides. The form of application shall be subject to such regulation as may be prescribed by the boards, but in no case shall any applicant be put to any unnecessary expense in order to secure registration.

Section 4. Each applicant for examination and registration and for the certificate hereinafter provided, shall pay a fee of one dollar to the said board, and a fee of twenty-five cents shall be charged for registering any person who shall have been examined and registered by any other board, and the amount derived from this source shall be held by said boards and applied to the expenses and salaries herein provided and such as may arise under the provisions of this

act; and the said boards shall report annually, to the court of common pleas of their respective counties and the Bureau of Mines and Mining all moneys received and disbursed under the provisions of this act, together with the number of miners examined and registered under this act and the number who failed to pass the required examination.

Section 5. That it shall be the duty of each of the said boards to meet once every month and not oftener, and said meeting shall be public, and if necessary, the meeting shall be continued to cover whatever portion may be required of a period of three days in succession, and examine under oath all persons who shall desire to be employed as miners in their respective districts; and said board shall grant such persons as may be qualified, certificates of competency or qualification which shall entitle the holder thereof to be employed as and to do the work of miners as may be expressed in said certificate, and such certificates shall be good and sufficient evidence of registration and competency under this act; and the holder thereof shall be entitled to be registered without an examination in any other of the anthracite districts upon the payment of the fee herein provided.

All persons applying for a certificate of competency, or to entitle them to be employed as miners, must produce satisfactory evidence of having had not less than two years practical experience as a miner, or as a mine laborer in the mines of this Commonwealth, and in no case shall an applicant be deemed competent unless he appear in person before the said board and answer intelligently and correctly at least twelve questions in the English language pertaining to the requirements of a practical miner, and be properly identified under oath, as a mine laborer by at least one practical miner holding miners' certificates. The said board shall keep an accurate record of the proceedings of all its meetings, and in said record shall show a correct detailed account of the examination of each applicant, with the questions asked and their answer, and at each of its meetings the board shall keep said record open for public inspection. Any miner's certificate granted under the provisions of this act, and the hereinafter mentioned act approved the ninth day of May, Anno Domini one thousand eight hundred and eighty-nine, shall not be transferable to any person or persons whatsoever, and any transfer of the same shall be deemed a violation of this act. Certificates shall be issued only at meetings of said board, and said certificates shall be at meetings of said board, and said certificates shall not be legal unless then and there signed in person by at least three members of said board.

Section 6. That no person shall hereafter engage as a miner in any anthracite coal mine without having obtained such certificate

as aforesaid. And no person shall employ any person as a miner who does not hold such certificate as foresaid, and no mine foreman or superintendent shall permit or suffer any person to be employed under him, or in the mines under his charge and supervision as a miner, who does not hold such certificates. Any person or persons who shall violate or fail to comply with the provisions of this act, shall be guilty of a misdemeanor, and on conviction thereof shall be sentenced to pay a fine not less than one hundred dollars and not to exceed five hundred dollars, or shall undergo imprisonment for a term not less than thirty days and not to exceed six months, or either, or both, at the discretion of the court.

Section 7. The persons who are now serving as members of the Miners Examining Board as created by the act approved the ninth day of May, Anno Domini one thousand eight hundred and eighty-nine, entitled "An act to provide for the examination of miners in the anthracite region of this Commonwealth, and to prevent the employment of incompetent persons as miners in anthracite coal mines," shall continue under the provisions of this act to serve as members of the "Miners' Examining Board" until the terms for which they were appointed under the provisions of the said act approved the ninth day of May, Anno Domini one thousand eight hundred and eighty-nine, shall have expired, and in the performance of the duties of their office they shall be subject to the provisions and requirements of this act.

Section 8. Nothing in this act shall be construed to in any way, excepting as herein provided, effect miners' certificates which have been lawfully issued under the provisions of the herein mentioned act approved the ninth day of May, Anno Domini one thousand eight hundred and eighty-nine.

It shall be the duty of the several Miners Examining Boards to investigate all complaints or charges of non compliance or violation of the provisions of this act, and to prosecute all persons so offending; and upon their failure so to do, then it shall become the duty of the district attorney of the county wherein the complaints or charges are made to investigate the same and prosecute all persons so offending, and it shall at all times be the duty of the district attorney to prosecute such members of the Miners' Examining Board as have failed to perform their duty under the provisions of this act; but nothing herein contained shall prevent any citizen, a resident of this Commonwealth, from prosecuting any person or persons violating this act, with power to employ private counsel to assist in the prosecution of the same; upon conviction of any member of the Miners' Examining Board for any violation of this act, in addition

to the penalties herein provided, his office shall be declared vacant, and he shall be deemed ineligible to act as a member of the said board.

Section 10. For the purposes of this act the members of the said "Miners' Board" shall have power to administer oaths.

Section 11. All acts or parts of acts inconsistent herewith are hereby repealed.

Approved—The 15th day of July, A. D. 1897.

DANIEL H. HASTINGS.

The foregoing is a true and correct copy of the act of the General Assembly No. 225.

ANTHRACITE MINE DISTRICTS.

FIRST ANTHRACITE DISTRICT.

LACKAWANNA AND SUSQUEHANNA COUNTIES.

Scranton, Pa., February 16, 1897.

Hon. James W. Latta, Secretary of Internal Affairs, Harrisburg, Pa.:

Sir: I have the honor of herewith presenting to you my fifth annual report as Inspector of Mines for the First Anthracite District, for the year ending December 31, 1896.

The total quantity of coal produced was 6,227,447 tons, which is 283,370 tons less than the production of the preceding year.

The number of fatal accidents was fifty-one and the non-fatal ones numbered one hundred and thirty-four. The fatal accidents caused twenty-one wives to become widows, and fifty-three children fatherless. For each death there was produced 122,106 tons of coal, and 33,694 tons were produced per accident, fatal and non-fatal. Average number of days worked was 174.9 against 182.3 in 1895.

The general condition of the mines is healthful, the ventilation in several of them having been improved by the sinking of air shafts and the erection of new fans at or near the remotest parts of the workings. The report contains, in addition to the usual tables, a recapitulation table of the five years ending December 31, 1896; also a description of the improvements and of every fatal accident that occurred during the year, and some remarks on the total statistics for the five years which I have been in office.

Respectfully submitted,

EDWARD RODERICK,

Inspector.

Table A.—Showing the Production of Coal, the Number of Persons Employed by Each Company During the Year 1896, and the Average Number of Tons Produced per Employe.

Names of Companies.	Number of tons produced.	Employes.
Delaware and Hudson Canal Company,	2,336,612	5,608
Hillside Coal and Iron Company,	782,508	2,180
Delaware, Lackawanna and Western Railroad Company,	476,936	1,088
Pennsylvania Coal Company,	275,493	764
Lackawanna Coal Company,	255,580	733
Johnson Coal Company,	237,713	791
Pancoast Coal Company,	198,725	653
New York and Scranton Coal Company,	194,919	602
North West Coal Company,	169,235	448
Elk Hill Coal and Iron Company,	158,560	415
Sterrick Creek Coal Company,	162,611	592
Edgerton Coal Company,	151,643	379
Blue Ridge Coal Company,	133,302	544
Dolph Coal Company,	120,711	556
Forest Mining Company,	105,531	693
Moosic Mountain Coal Company,	104,132	298
Mt. Jessup Coal Company,	95,734	330
Riverside Coal Company,	78,637	391
Murray Coal Company,	54,140	83
Pierce Coal Company,	41,075	175
Franklin Coal Company,	34,305	123
Russell B Coal Company,	31,066	132
Waddell Coal Company,	18,279	86
Total,	6,217,447	17,601

Tons produced per employe, 353+.

Table B.—Number of Fatal Accidents and Quantity of Coal Produced per Life Lost.

Names of Companies.	Number of fatal accidents.	Number of tons of coal produced per life lost.
Delaware and Hudson Canal Company,	21	111,267
Hillside Coal and Iron Company,	7	111,789
Delaware, Lackawanna and Western Railroad Company,	6	79,489
Johnson Coal Company,	2	118,856
Miscellaneous coal companies,	15	158,901

Table C.—Number of Fatal and Non-Fatal Accidents, and Tons of Coal Produced per Accident

Names of Companies.	Number of accidents.	Tons of coal produced per accident
Delaware and Hudson Canal Company,	58	40,286
Hillside Coal and Iron Company,	2[illegible]	34,022
Delaware, Lackawanna and Western Railroad Company,	16	29,808
Johnson Coal Company,	9	26,412
Miscellaneous coal companies,	79	30,173

Table D.—Occupations of Persons Killed and Injured.

Occupations.	Killed or fatally injured.	Injured.	Total.
Miners,	19	53	72
Laborers,	22	35	57
Rockmen,	4	1	[illegible]
Company laborers,	[illegible]	[illegible]	[illegible]
Runners,	1	[illegible]	[illegible]
Slate pickers,	1	[illegible]	1
Drivers,	[illegible]	[illegible]	[illegible]
Sinkers,	[illegible]	[illegible]	[illegible]
Miscellaneous,	[illegible]	8	[illegible]
Total,	51	134	18[illegible]

Table E.—Classification of Accidents.

Cause of Accident.	Killed or fatally injured.	Injured.	Total.
Falls of rock,	26	52	7[illegible]
Falls of coal,	9	8[illegible]	1[illegible]
By cars,	[illegible]	[illegible]	[illegible]
Explosions of blasts,	5	11	16
Explosions of gas,	[illegible]	[illegible]	[illegible]
Explosions of powder,	[illegible]	1	[illegible]
Miscellaneous causes,	1	[illegible]	[illegible]
Totals,	51	134	18[illegible]

Table F.—Nationality of Persons Killed and Injured.

Nationality.	Polish.	American.	Irish.	English.	Welsh.	Hungarian.	Italian.	German.	Russian.	Austrian.	French.	Grecian.	Bohemian.	Total.
Killed or fatally injured,	8	8	14	7	4	4	3	....	2	1	....	....	....	51
Injured,	31	26	19	24	11	10	2	5	2	1	1	1	1	134
Total,	39	34	33	31	15	14	5	5	4	2	1	1	1	185

Table G.—Showing the Quantity of Coal Mined and Shipped, the Number of Days Worked, the Number of Persons Employed, the Number of Persons Killed and Injured in and About the Mines of this District During the Five Years Ending December 31, 1896.

Years.	Total production in tons of coal.	Total shipment in tons of coal.	Number of days worked.	Number of persons employed.	Number of persons killed.	Number of persons injured.
1892,	5,854,638	5,546,890	209.94	14,121	57	115
1893,	6,202,131	5,914,673	195.35	15,634	51	96
1894,	5,907,251	5,692,644	171.90	16,014	47	93
1895,	6,510,817	6,216,537	182.31	16,272	39	121
1896,	6,217,447	5,996,599	179.40	17,604	51	134
Totals,	30,692,284	29,367,733	938.9	79,645	243	564

Improvements.

A new fan has been erected by the Delaware and Hudson Canal Company at the Marvine shaft to ventilate the fourteen foot workings. The old one will hereafter be used to ventilate the Clark vein.

At Eddy Creek two new planes were driven from the Rock vein to the "14 foot." One is two hundred feet long, the other five hundred feet. A new slope seven hundred feet long was also sunk.

At Grassy Island a new slope has been driven from No. 2 vein to the Diamond, a distance of six hundred feet. Two new shafts have been sunk and a new fan erected to improve the ventilation in the workings of the Wilson creek tunnel.

Two new tunnels have been driven at Coal Brook, one from the top vein to the surface, a distance of one hundred and sixty feet, and one from the third vein to the surface, a distance of one hundred and seventy-five feet.

At Clinton two new slopes have been driven; one is 3,100 feet long, the other 700 feet. The first has an average grade of 8 feet in 100, the other 6 feet in 100.

Richmond No. 3 shaft has been sunk from the Clark to Dunmore Nos. 1 and 2 veins, a distance of 132 feet. Its size is 10x22 feet.

At Richmond No. 4 a new plane 800 feet long has been made.

At Mt. Jessup a tunnel 464 feet long has been completed from the Clark to the No. 3 Dunmore vein.

Near their No. 1 colliery the Pennsylvania Coal Company has erected six Babcock and Wilcox water tube boilers of 900 horse power. The pressure carried per square inch is 110 pounds.

Steam is supplied for No. 1 colliery breaker and shaft, to Gypsy Grove colliery breaker and its two shafts, and have supplanted the 27 cylindrical boilers 36x30 feet formerly used at these places.

The Lackawanna Coal Company has sunk an air shaft, having a sectional area of 120 feet and a dept of 55 feet.

A new air shaft was sunk from the surface to the Dunmore vein by the Johnson Coal Company. Its depth is 310 feet and has 120 feet area.

A tunnel 7x14 feet and 1,300 feet long has been driven from the big vein to the Dunmore.

At Pancoast a new slope 800 feet long has been sunk in Clark vein and another is being sunk in No. 3 vein.

The Dalph Coal Company has sunk two new slopes, one 350 and the other 650 feet deep. One is 6x16 and the other 6x12. They have also made a new plane 500 feet long, and sunk two new air shafts each 62 feet deep.

The Riverside Coal Company has made a new slope 900 feet long.

Many other small air shafts, tunnels, slopes and planes have been made during the year for the purpose of properly ventilating the workings and to keep up the output of coal, but they are not reported.

A Few Remarks on the Statistics for Five Years.

By a retrospective glance at the mining statistics of this district for the five years ending December 31, 1896, we find that there were 30,702,284 tons of coal produced and 29,367,733 tons shipped; 79,645 persons were employed for 939 days, during which time 1,056,055 kegs of powder of 25 pounds each, were consumed.

Of the total number employed 243, or a small fraction more than three-tenths of one per cent. were killed. Of the 243 killed, 154 lost

their lives through falls of coal, roof and dividing rock, thus showing this to be by far the most prolific source of accidents in this district and, consequently, demanding most careful consideration on the part of the workmen and those in charge.

Many of those accidents I know have been purely accidental, but I can truthfully say from personal investigations made of each one of them that the greater number of them have been the natural results of thoughtless indifference on the part of miners to the many dangers that are daily met with in the course of coal mining, and to which they, like others employed in dangerous occupations, become indifferent.

If I were to consider no other dangers than those which, by the very nature of the occupation, arise in the course of mining over 30,000,000 tons of coal, which required the consumption of over a million kegs of powder, I would be compelled to acknowledge that the ratio of fatal accidents to the number employed has been very small indeed. But when we realize the dangers that arise to those employed in and around the breakers from the necessity of moving to and fro amidst rapidly revolving machinery and from handling mine and culm cars, and then again, the door-tenders, drivers, runners, slope and shaft men, brattice and timber men and the general company laborers, all of whom must necessarily meet with more or less danger peculiar to each one's occupation, and when the different grades of intelligence of many of those who work in and about the mines is taken into consideration, it is, indeed, surprising in a great degree to any one familiar enough with the facts that so few accidents occur.

However the loss of so many precious lives is to be greatly deplored, and since accidents do occur in the best regulated mines as well as households, nevertheless fewer happen where things are well conducted than where loose discipline prevails. Hence, the necessity of exercising "eternal vigilance" over each class of employes in a mine cannot be too strongly urged upon all those in charge, as this is the only way whereby we can ever hope to reduce accidents to the least possible minimum. In conclusion, then, I might say that coal mining is extremely dangerous, and the risks attending it are many and varied, and while coal is mined accidents will occur, yet I do not hesitate to state, notwithstanding the frequent and oftentimes unintelligent criticisms to the contrary, that nowhere is there more effort put forth by those in charge to ensure safety to all concerned than there is in the anthracite coal mines. I might further add that there are foremen and superintendents inside and out of the mines and also mine Inspectors, and though they should be doubled in numbers and visit mines more frequently than they

do, I am safe in saying, from my knowledge of the way ordinary accidents occur, that, unfortunately, they will happen then as they do now.

Description of Accidents.

Twenty six persons lost their lives in the mines of this district during the year by falls of rock; nine were killed by falls of coal, and by what is commonly known among the miners as "six inch," which is a six-inch bench of coal that usually sticks to the roof. Six were killed in various ways by cars, five by blasts, which, in some cases exploded prematurely, while in others the men firing the shots thought they had "missed" and returned to the face under that impression only to receive the full contents of the shots. Three lost their lives by explosions of gas in places which had been temporarily abandoned. Another was fatally burned by an explosion of powder which occurred while he was preparing a cartridge with a lighted lamp on his hat. A spark from the lamp fell into the powder and exploded it. It is remarkable that so few accidents occur from this source in view of the fact that many otherwise careful and sensible men have fallen into the habit of handling powder without first removing their lamps from their hats as the law requires them to do. Indeed, with many it has become the exception rather than the rule to remove their lamps.

The other accident occurred to a breaker boy who wandered out on a culm bank and in some unknown way was caught between a sheave wheel and its frame. The majority of the accidents, both fatal and non fatal, have occurred in so peculiar a manner that I have again thought it advisable to describe each one in detail, as I have in the past, in the hope that the inside and outside superintendents, foremen and others who may have charge over men, as well as the miners into whose handes perchance a copy of this report may fall, will read them over thoughtfully and learn how the accidents happen and thereby see the necessity of enforcing a strict and systematic discipline in and about the mines with the object of ultimately lessening these accidents which are continually occurring and causing so much suffering and sorrow to the mining population.

Accidents by Falls of Rock.

James Newcomb, an Irish miner, 55 years of age, was fatally injured by a fall of rock at the Marvine shaft on January 4. He fired a shot at the face of his chamber and a prop which was supporting a large slab of rock was displaced thereby. A short time afterwards, while he was in the act of clearing some coal from the place where

the prop had been standing, for the purpose of replacing it when the slab fell and struck him on the back, injuring him so severely that he died on the third day after.

Peter Kearney, a laborer, was instantly killed by a fall of rock at the White Oak mine on January 28. The miners had gone home from the place where this fatality occurred. Before going, however, they made a careful examination of the roof and found there was a bad piece over the place where the laborers were loading their cars, which they tried to pull down but failed, so concluded it was not as loose as they had supposed; but subsequent developments proved they were mistaken, and that they had been deceived by one of the most treacherous pieces of rock commonly known as "slants," or "hog backs."

On February 8, Joseph Twiss, an English miner, was fatally injured by a fall of rock at Leggett's Creek. From the workmen who were present when the fall occurred, it was learned that he and his brother were in the act of turning a drilling machine under a slab of roof which had been examined by them just a few minutes previously. The laborer, though covered by the fall, was but slightly injured, as a projecting piece of bottom coal had broken the fall and saved him. Joseph, however, did not fare so fortunately, as he was forced with fatal results against what had been the means of saving his brother's life.

White Oak No. 4 was the scene of an accident on March 2 which resulted in the instant death of a young miner named Thomas Maloney. About half an hour before he was killed he had fired a shot at the face of his chamber and during this time he had been chatting with his fellow miner in the adjoining chamber. He afterward returned to his own place and began barring out some loose coal, and while thus engaged a large piece of sand rock roof fell upon him. He was known among his fellow workmen as a careful and competent miner, yet notwithstanding this he was caught and killed.

At No. 1 shaft, in Dunmore, a fall of rock occurred at the face of a breast on March 6, causing the almost instant death of a young miner named John Mullen. He had been doing company work up to 4 o'clock and then went to his own place to help his fellow miner cut enough coal for the following day. A shot had been fired at the face a few minutes before he was caught, which had loosened the coal, which his partner had been trying to work out with a pick, and when it was about ready to fall Mullen said to him: "Let me bar it out with a drill." His fellow miner then stepped to one side, and he began to bar it out, and in so doing loosened the rock above him. The other miner noticed the rock giving, and shouted to him. He made an effort to get out from under it but failed, and was caught

and crushed so badly that he died before reaching the surface. Both men had been trying to pry this slab down, but could not do so while the coal was under it.

An accident which occurred at No. 2 shaft, Forest City, on March 28 resulted in the instant death of a young miner named Anthony Thornton. He was on a gangway road where he was to start a breast. He had drilled and fired his first shot, which failed to do its work in a proper manner. It had shattered the coal to some extent, but had spent its main force on a small wing of rock that projected from the side of the gangway near the roof. When he got back to the place where the shot had been fired and discovered what it had done, he took up a drill and began sounding the coal, and while doing this, the above mentioned piece of rock fell on him. Had the hole cut, this would have fallen before he returned, but not having done its work the rock remained in place only to fall on this poor unfortunate man.

John Collins, a young laborer, was instantly killed by a fall of slippy rock at the Glenwood on April 1. A cross cut was being driven from one breast to another. A small hole had been made and the miner had just been making an examination of this with a view of enlarging it to admit more air. The miner stepped out and Collins stepped in and had just began to shovel coal when a very treacherous and slippy piece of rock fell on him with the above result.

At Olyphant No. 2 on the 9th of April, Edward Morris, a Welsh miner, was instantly killed by a fall of rock at the face of a gangway. Upon investigation, it was learned that Morris had made an examination of the roof about an hour before he was killed, and had concluded that it was safe. However, while he was on his knees getting ready to tamp a hole on the upper rib, the slab which he had previously examined, gave way and killed him. The slab measured seven feet in width, about the same in length, was two and a half feet thick at the centre, tapering to a thin edge on all sides, making it a very deceptive piece of roof.

At Eddy Creek shaft, on April 18, four men who were engaged driving a rock plane from one vein to another, were instantly crushed to death by a fall of a large saddle-shaped or "hog back" rock. Their names were John Harvey, who was chargeman; Ralph and James Abbott, who were brothers, and John McHale. The rock was of a faulty formation, smooth on the surface, having no seams to indicate its dangerous nature, and thus deceived the men when they examined it. Being entirely detached from the main roof, and only held in place by the small pieces of rock which were projecting from the sides of the tunnel, it was constantly being shaken by the heavy

shocks caused by firing several deep holes simultaneously until finally it became so heavy on the supports that these gave way and it fell with fearful results just as the men were returning to the face after firing a round of holes.

Several conflicting stories as to the cause of the accident made it necessary to call an inquest. The coroner's jury, after hearing all the testimony of the persons who knew anything of the place or accident, rendered the following verdict: "These men came to their deaths by a fall of rock in a tunnel being driven in the Eddy Creek shaft, and we further find from the evidence that the occurrence was purely accidental, and that all precautions for the prevention of such accidents had been taken."

Afton Pish, a Russian laborer, was instantly killed by a fall of rock at the Ontario tunnel on the 19th of May. He was working for a miner in a gangway in which two shifts were employed. The preceding shift had taken out a cut from under the middle rock, but had not been able to blow it down, and they told the day shift miner not to go under it but to take it down before doing any other work. Instead of doing as he had been directed, he went to work and drilled and fired a hole in the coal. Shortly after the hole had been fired, he and his laborer returned to the face and found that the shot had only shattered the coal. Finding this so, he asked the laborer to hand him a drill, intending to bar out the shattered coal. The laborer went for a drill and was in the act of handing it to him when the middle, or dividing rock, fell and crushed his life out.

At Storrs' No. 2 on June 5, Henry Oakey, an English miner, was instantly crushed to death by a fall of rock at the face of his chamber. He was lifting some bottom rock at a point in the chamber where the roof was bad and to which his attention had repeatedly been called, and which he had endeavored to make safe by placing a prop to support it. On this day he had taken his son in with him, as well as his laborer, and while they were all engaged on the bottom rock a large slab of top rock, which in all probability had been loosened by the shots blowing the bottom rock against it, fell and caught the three, but killed only one. A prop which had been under it is thought to have been displaced by one of the shots. In my opinion it is much safer and more economical for all concerned to blow such slabs of roof down than it is to put props or timber under them, and this should be done wherever possible.

At Storrs No. 2, on June 12, a very curious accident occurred to a Polish laborer named Michael Tococh, which proved fatal on the following day. He was loading a car in a breast when a small piece of rock about six inches square and half an inch thick fell from the roof, striking him on the head, cutting an artery; and after sitting for a few minutes he finished loading the car, the wound bleeding pro-

fusely in the meantime. When the car was loaded he went out to the foot of the shaft, where two men bound up the cut and stopped the flow of blood. He was taken home, where his wounds were attended to by a physician. He fell asleep some time during the night and never awoke. The roof in this breast was hard sand rock, with no slants or slips nor was there another piece similar to the one that fell. This piece fell from a small hollow in the rock.

Stephen Friskie, a laborer at Jermyn No. 1 was fatally injured by a fall of rock on June 18. One of the miners of the place stated that he and his fellow miner had examined the rock, thought it was bad and had tried to pull it down, but failing to do so, they concluded that it would not fall, and went to work under it. Half an hour after it fell upon the laborer, the two miners narrowly escaping. The fact of the three men going under it to work would go to show that they must have considered it safe, but they, like many others, made the fatal mistake of going under a slab of rock after once having tried to pull it down.

An accident which resulted fatally to a laborer named Andrew Anchcek occurred at the Sturges shaft on July 10. The miner was barring down some loose rock at the face of his breast, when a slab from the side fell and struck the laborer, injuring him so severely that he died shortly after reaching home.

Edgerton drift was the scene of an accident on August 5 which caused the death of an Italian labor named Antone Diago. He, the miner and another laborer, were close to the face of a breast when a large fall of rock took place which instantly killed him, while the others barely escaped. Investigation showed that there was a slip in the roof running far up and reaching across the place to the lower side, and about twenty feet back. Two large cogs had been built under this portion of the roof, but the slip, as was subsequently shown, had rendered them of but little use, and when it gave way on the pillar, its great weight pushed these to one side, and it fell in one great mass on the unfortunate man. This, it may be said, was an unavoidable accident, as precaution had been taken to secure the rock and while the timbers were placed in what appeared to be the proper place, it was afterward found that owing to an unseen seam in the rock they were of no use.

At the Riverside shaft, on August 10, Michael Corcoran, an old miner was fatally injured at the face of a gangway which he was driving. His laborer stated that he fired five holes in the bottom bench of coal and was preparing the sixth when the fall took place. Before commencing to drill this hole, he tried to bar down a six-inch bench of coal under the dividing rock, but had failed and left it with the remark that he would put a shot in it after firing another shot in the bottom. After failing to pull it down he told the laborers that

it was all right, and that they could go under it to shovel coal. They shovelled for a short time, then stepped out to load a car when it fell and caught Corcoran at the extreme end, where he was drilling a hole. This man was known as a careful and competent miner, but was deceived by a very treacherous piece of dividing rock which was six yards long, two yards wide at the centre and one yard wide at the end which struck him. It was nearly two feet thick at the outer edge and tapered gradually to nothing at the inner end. Underneath and sticking to it was a thin bench of coal, which made it very difficult to discover its deceptive nature.

The Dolph mine was the scene of an accident on August 21 whereby a laborer named Steve Vatmonski met his death. There was a bad piece of roof at the face of the breast where he was working, to which the miner's attention had been called by the mine foreman and he was making preparations to put a prop under it when the slab fell and killed the laborer, who was on his knees clearing a place to put the prop. It would have been much better and less labor to have barred this slab down than to have propped it, but having some loose coal he did not want to bar the rock down on it, and preferred to take the risk.

Patrick Flanagan, a laborer, was instantly killed by a slab of sand rock falling on him at the Marvine shaft on September 22. Shortly before this, a prop that had been standing under this slab of rock was displaced by a shot, and the miner and two laborers had a discussion as to which would be the better plan to secure it. Flanagan thought it would be better down, while the others thought it best to replace the prop, which they did. However, in half an hour afterward, while Flanagan was standing under the slab waiting for an empty car, it fell and crushed his life out.

By a fall of roof on a gangway road at Storrs No. 2 on October 16, a young driver named Nicholas Lomax was instantly killed. On inquiring into this affair it was found that there was a bad piece of roof on the gangway extending back about forty-five feet from the face, the condition of which had been reported by the fire-boss to the foreman and miner. Two hours before the accident, the two men made an examination of the roof from the face, back to the branch, and found that it required attention, but did not think it extremely dangerous, and thought it would not fall for a day or two, or until such time as it could be secured by timbering. They, however, were very much mistaken in their judgment, for in less than two hours from the time they examined it, a portion of it fell while this boy was returning from the face of the gangway and crushed his life out in an instant.

Stephen Crelock, a laborer at the Erie shaft, was killed on October 16, by a fall of slippy rock. He, the miner and a driver, were

lifting an empty car on the track about twenty feet back from the face of a breast, when a piece of rock seven feet long and two and one-half feet wide, having an average thickness of eleven inches, fell and crushed him to death. In this case, as in others, the miner and laborer had a short time previously been trying to bar down this piece, but had failed and so concluded it would not fall, but it was not long before it was shown that their judgment was erroneous.

John White, a miner, was killed at Wilson Creek tunnel by a fall of rock on November 4. A fellow miner, who was a witness to the sad affair, stated that he and White had arrived at the face of the breast a few minutes before the fall occurred. Soon after, he took up a drill, and tried to bar down a piece of what is commonly known as "falling roof," but failed, and then began to bar out some loose coal from the face, to get a solid place to fasten his machine. He struck but one or two blows, however, before the very slab which he had just been trying to pull down fell upon him and crushed him to death. It measured 4x5 feet and was from 8 to 11 inches thick.

John Sholis, a laborer, 27 years of age, was instantly killed by a fall of rock at the "Lackawanna" on the 12th of December.

On visiting the scene it was not difficult to see how this poor fellow lost his life. There was a slip in the roof running diagonally across the breast at a point twelve feet from the face to the outermost end of the piece which fell. The slab was nine feet long, three feet wide and seven inches thick where it broke off, and tapered to a sharp edge on the outside, making a very treacherous piece of roof, and as no slips were visible previous to its falling, its dangerous character would never have been suspected.

William Kearney, a laborer, was fatally injured at Clinton on December 22nd.

The place where he was working had a very "slippy" roof, but was well timbered to within a few feet of the face. A slanting piece of rock ran diagonally across the breast, from which a small piece fell, striking the laborer as he was loading a car and completely severing one of his legs below the knee. His fellow miners bound up his leg as well as they could. In the meantime a physician was sent for who soon arrived and dressed the wound, and sent the man to the hospital where he died in a short time.

Accidents by Falls of Coal.

Martin Commons, a miner, was instantly killed by a fall of "six inch" at White Oak No. 3½, on June 12th.

He and his father were working together in a breast. The father stated that he had carefully examined the roof before going home

and thought it perfectly safe. When the fall occurred the young man was shovelling coal from the upper side of the breast where they had started to drive a cross-cut. There was a prop under this piece but it proved inadequate to support it as it gave way when the roof fell.

This "six inch" slab is very treacherous to work under, but being so thin it is oftentimes very hard to take down and consequently is left up and frequently falls when it is deemed perfectly secure.

A fall of the fatal "six inch" occurred at "Keystone" on June 24th which resulted in the instant death of a miner named Edward Hunt and his laborer Adam Noack.

They were taking a "skip" off a pillar and had just fired a strong hole and returned to the face, and from the position in which they were found they must have been stooping to examine the result of the blast when the fall occurred.

The mass that fell measured twenty feet in length, seven feet in width and was six inches thick.

At the outer edge of this slab a prop had been placed, but whether it had been discharged by the recently fired shot, or by the falling roof is not known, as there was no one present when it fell except the two unfortunates who were killed by it.

The rock roof in this place is of the safest kind, and the place would be the last in which an accident like this would be likely to occur.

A fall of top coal at the "Blue Ridge" was the cause of death to a Polish miner named Charles Barkowski, on November 6th.

He had fired a shot in the bottom bench of coal at the face of his breast, which failed to do its work, and while he was in the act of barring out the loose coal, the top coal, which was undermined for five or six feet, fell on him and instantly crushed his life out. The top coal here as a rule is very hard, and has to be blasted down. But in this case the roof over it was of a soft nature which thus weakened it, and when undermined too far it fell.

At Jermyn No. 1, on December 4th, a miner named Matthew Timon was fatally injured.

He and another miner were engaged "taking back" top coal. When doing this work it is customary to remove the props from under it by blasting them. A shot had been fired in a prop under the edge of the overhanging coal which only split it.

Timon took up a drill and was in the act of trying to remove the prop by further splitting it and while he was thus engaged the coal fell upon him, bore him to the ground in a doubled up position and so severely injured him that he died in two days.

Lawrence Dubill, an Austrian laborer, 31 years of age, was almost instantly killed at Simpson slope on December 4th.

In the investigation it was learned that he and the miner had been trying to pull down a piece of what is known in this region as the "11 inch," but could not accomplish it. Failing in their efforts they began to work under it, and continued to do so for a space of fifteen minutes, when the "11 inch" fell on the laborer with the above result.

It goes without saying that just so long as miners continue this practice, just so long will they have to suffer the consequences of their carelessness.

James Bannon, a driver 17 years of age, was fatally injured at Olyphant No. 2 on December 10th. A slab of bony coal, three feet long, two feet wide and four inches thick, was supported by a small prop close to the breast track.

A car was run down from the face of the breast and stopped near the prop. The driver put his back against the prop, and his feet against the car to push the car and in so doing displaced the prop, causing the slab to fall, which struck him, and injured his spine so severely that he died on Jan. 7, 1897.

Accidents by Car.

On April 28th at the "Powderly Slope" Michael Murray, sixty-five years of age, was fatally injured by being crushed between a car and the side of the slope.

He with three others were engaged cleaning the slope and throwing the coal into two cars that were hanging on the rope which were hoisted from place to place as the men desired.

The cars were about loaded when the driver boss came along, and told them to get out of the way as he would tell the engineer to hoist as soon as he reached the head. They all replied by saying "all right." When he got out he shook the bell wire to let them know that the engine was about to start and for them to get out of the way. They got to one side but the cars did not start promptly and Murray seeing some pieces of coal on the opposite side went over to pick them up. At that moment the cars started and before he could get out of the way he was caught and crushed, as already stated.

Patrick Moran, eight two years of age, was fatally injured under the "White Oak" breaker on the 5th of May, and died on the following day. He had been employed shoveling coal in a boiler room, but left that place and went down a flight of stairs leading out under the breaker where the culm car is loaded.

He stepped on the track, and started to walk out, when a culm car came along, struck him, and knocked him down, and while it did not pass over him, yet he was fatally injured.

William Genther, a laborer, was fatally injured at the "Clinton" on August 4th. He and several other men were engaged loading rock on a new slope. The car when loaded at one point was run down to a place on hundred and fifty feet below to be unloaded as a ballast for the road. The grade on the slope is very light being four feet to the hundred, and the men were accustomed to run the car down to a place one hundred and fifty feet below to be unloaded as a to this point. Some would get ahead of it, and others on the sides. Genther and two others were running a car down and instead of getting on the side, as the others did, he got on the front bumper and slid his foot along the rail.

Before the car started the men told him to get off and he replied by saying he guessed he knew his business. As already stated it was intended to stop the car a short distance below, but the two men on the side found it was getting away from them and told him to get off and sprag it, but he laughed, and said it would soon stop. The truck or car gained in speed so that the other men had to let it go, and when three hundred feet or more away they saw his light go out.

They followed down and when seven hundred feet from where they started they came upon him lying in the centre of the track severely injured. They picked him up and conveyed him home where he died in a few hours.

On August 10, near the "Sterrick Creek" breaker, John Burnett, an outside car runner, was fatally injured. He lived for about three hours and was perfectly conscious to the last, and when asked by those about him how the accident occurred, he said he slipped and fell off the bumper under the car. The brake rod caught him and lacerated his abdomen.

He had been employed at the work for several years and was a very careful man.

At "Richmond No. 3," on August 22d, a laborer named Anthony Poits was instantly crushed to death by a runaway car.

He, with several others, were standing at the foot of the shaft waiting to go up. The runner stated that he was about to run a trip of eight cars from the top of a run to the foot of the shaft. Before starting, he saw that they were all coupled and then pulled out the sprags and the trip started, but stopped and bumped up again. This bumping caused the first two cars to become uncoupled and they gained speed so rapidly that he could not keep up with them. Finding that they were beyond his control, he shouted to the men at the foot to get out of the way and all did so except Poits, who was struck by the cars and pinned between them and the buntons.

James Mack, an Italian laborer, was killed at No. 2 shaft, Dunmore, on September 30th, by being squeezed between cars.

He had two cars blocked on a breast road a short distance off the gangway, and was about to let them down to the gangway when a doortender told him not to do so as a driver was coming out.

While waiting for the driver to pass he was standing with his back towards the cars, which he had been going to run, and was struck by them and knocked against the rear car of the outgoing trip. The cars that he had blocked were bumped by another and had started unknown to him.

Explosions of Gas.

An explosion of gas occurred at "Johnson's No. 1," on September 10th, whereby Patrick Long and Jualis Zeyneski, two company laborers, were fatally burned. One died on the following day, the other on the second day after.

The slope in the Clark vein was to be abandoned and the two men were sent by the mine foreman to remove the rails from the slope and slope airway. Before going, he told them to go to the fire-boss and get a safety lamp, which they did. The fire boss told them to make an examination of the slope with a safety lamp and they did so, but found no gas. They then began to work and continued up to a short time before noon, when they got through on the slope. For a short time these two and another man named Zimmerman, who was working with them, stood on the outside of the slope airway door and while there Long proposed going inside for the purpose of pulling spikes. Zimmerman said that there might be some gas there and that he had better make an examination, to which Long replied by saying "that there would be some gas there when you and I get there." With this he went inside and began pulling the spikes. They loosened three rails and then went up to the head of the slope to eat their dinner. When they had finished, Zimmerman went out to the foot of the shaft and the other two went back to their work. They began to carry the loosened rails from inside the door to the outside, in the meantime blocking the door open, thus allowing the air to escape before going to the face of the airway.

They had carried out two of the three and were in the act of raising the third to their shoulders when one of their lamps came in contact with a small body of gas which had accumulated in a cavity in the roof, from which a large sulphur ball or bell had fallen.

The place where the explosion occurred was low and narrow and this accounts for the severe burning they received.

It was shown at the investigation that the foreman and fire boss were aware of small accumulations of gas in this cavity at different times for three weeks preceding and this is why they took the precaution of giving these men a safety lamp. Long was a competent

workman, and was put at all such jobs, and this is the reason the fire boss gave for not going to the place and making an examination on this day.

The fact that Long had found no gas on the slope road led him to believe that there was none on the airway. Neither was there any, except in this hole in the roof, for had there been any on the road, it would have been ignited when they were pulling the spikes. But the open door took the current off and thus allowed the gas to escape more freely.

As a means of preventing such accidents in the future I would suggest that whenever rails are to be removed, or any other work to be done in abandoned portions of a mine, that a fire boss be sent to take charge of the place and the men doing the work.

Very frequently miners and company men, when put in charge of such work, become careless and indifferent, and if no danger is discovered in one place they take it for granted there is none in any other and thereby cause disaster. Whereas a fire boss would have full charge and would not permit any one to go to a place that had not been examined.

By an explosion of gas in Storrs No. 1 on November 10th, one man, named Thomas P. Williams, a miner, was fatally and seven others slightly burned.

The explosion occurred in a temporarily abandoned plane, an examination of which had not been made since the Thursday preceding, at which time no gas was found in it. The fire boss who made the examination stated that a board, with the words "keep out of here," had been placed across the plane. Not that there was any danger there, but as a precautionary measure for keeping persons out of the old work.

Williams had driven this place and thus was familiar with it, and having encountered no danger from gas while he was working in it, he thoughtlessly entered it for the purpose of getting a few ties to lay down a piece of road in the place where he was working at this time.

He had gone but a short distance, however, when an explosion was caused by his lamp coming in contact with a body of gas which had accumulated there.

The mine foreman stated that he had charged the fire boss to make a daily examination of the place, but for some reason he neglected to do so.

An inquest was held on this case and the jury rendered the following verdict:

We, the undersigned, find from the evidence that the said Thomas P. Williams came to his death from an explosion of gas at "Storrs mine No. 1," on November 10, 1896. We further find that his death

was due in part to his own carelessness and in part to negligence on the part of mine officers in not having a gate at a certain point to divert an air current into the gangway in which the explosion occurred. We also find that the said gangway was not fenced or marked according to mine rules.

Accidents by Explosions of Blasts.

John C. Davis, a Welsh miner, 36 years of age, was fatally injured by a piece of coal flying from a shot at Storrs No. 2 on March 4th. He was firing a shot in a cross cut near the face of his breast and had retired to a cross cut sixty five feet further back on the opposite side. The squib being longer in burning than usual, he stepped out on the breast road to see if it was still burning; at the same moment the shot exploded and threw a small piece of coal back, which struck him on the head and injured him so severely that he died in a few hours.

A premature explosion of a blast at Storrs No. 3, on the thirteenth of April resulted in the death of a laborer named John McDonnell.

He and his miner were in the act of tamping a hole when the needle slipped back and in trying to hold the powder with a drill, while pushing the needle back the shot exploded and injured both, McDonnell fatally.

On June 26, at No. 2 shaft, Forest City, two brothers named Frank and Benjamin Balsher, were fatally injured by coal flying from a prematurely exploded blast. Frank, as a third brother stated, told Benjamin, who was a miner, to be careful when he was trying to push some powder to the back of the hole with a scraper and Ben replied by saying that "he had worked in the mine longer than his brother and guessed he knew his business." A moment later, the powder exploded and both were fatally injured. Frank died in two hours but Ben lived until the 29th.

The miner stated that the cartridge was too large for the hole and that he had taken the needle to reduce it by forcing the needle through it. This let the powder out of the cartridge and it was while he was trying to gather the loose powder with a scraper that it exploded.

Daniel Matthias, a Welsh miner, was fatally injured at Leggett's Creek on December 3. He had retired to a place of safety on a gangway road, after igniting a squib. Just as he got around the corner on the gangway he heard a shot go off and thought it was his own. Without waiting a moment he started back and had gotten within a few feet of the face when the blast exploded. A piece of coal struck him on the stomach and hurled him back twelve feet against the rib. The injuries were so serious that he died on the following

day. The face or the breast was not more than ten yards from the gangway, and it was evident that his mind could not have been on his work, and this is the only reason that can be given for his having mistaken another shot for his own.

Charles Brady, a slate picker, was killed on a culm bank at the Pierce breaker on September 24. He was employed in the breaker, but during an idle spell strolled out on the culm bank, 200 feet away from the head of the breaker, where a sheave wheel, around which the rope to hoist the culm car runs and in some unaccountable way got fast and was crushed to death between the wheel and its frame.

Mine Foremen's Examination.

The annual examination of applicants for certificates as mine foremen and assistant mine foremen was held at Carbondale on November 6 and 7. The following were recommended to received mine foremen's certificates:

John E. Kelley, Jessup.
Charles R. Burnett, Jessup.
Isaac R. Benjamin, Forest City.
James P. McAndrew, Winton.
John R. Jones, Peckville.
Edmond I. Thomas, Olyphant.
P. J. Brennan, Olyphant.
William H. Martz, Scranton.
Tallie P. Jones, Priceburg.

The following received assistant foremen's certificates:

Henry H. Hitchings, Scranton.
Henry Coles, Scranton.
George Davis, Scranton.
David T. Lewis, Olyphant.
John P. Williams, Olyphant.
John J. Williams, Olyphant.
John Pettigrew, Olyphant.
Milton Hoodmacher, Marchwood.

The board of examiners was A. P. Patton, superintendent, Olyphant; James E. Morrison, Carbondale, and Joseph Roberts, Jermyn, miners, and the district mine Inspector.

Table 1.—Showing Location of Collieries in the First Anthracite District.

Name of Colliery	Name of Operator.	Location—County.	Name of Superintendent	Postoffice Address.
Leggett's Creek	Delaware and Hudson Canal Company,	Scranton, Lacka.,	C. C. Rose,	Scranton
Marvin	Delaware and Hudson Canal Company,	Scranton, Lacka.,	C. C. Rose,	Scranton
Eddy Creek	Delaware and Hudson Canal Company,	Olyphant, Lacka.,	C. C. Rose,	Scranton.
Olyphant No. 2	Delaware and Hudson Canal Company,	Olyphant, Lacka.,	C. C. Rose,	Scranton.
Grassy Island	Delaware and Hudson Canal Company,	Olyphant, Lacka.,	C. C. Rose,	Scranton.
White Oak	Delaware and Hudson Canal Company,	Archbald, Lacka.,	C. C. Rose,	Scranton.
Jermyn No. 1	Delaware and Hudson Canal Company,	Jermyn, Lacka.,	C. C. Rose,	Scranton
No. 1 shaft	Delaware and Hudson Canal Company,	Carbondale, Lacka.,	C. C. Rose,	Scranton.
Powderly	Delaware and Hudson Canal Company,	Carbondale, Lacka.,	C. C. Rose,	Scranton.
No. 3 shaft	Delaware and Hudson Canal Company,	Carbondale, Lacka.,	C. C. Rose,	Scranton.
Coal Brook	Delaware and Hudson Canal Company,	Carbondale, Lacka.,	C. C. Rose,	Scranton.
Racket Brook	Delaware and Hudson Canal Company,	Carbondale, Lacka.,	C. C. Rose,	Scranton.
Clinton	Delaware and Hudson Canal Company,	Vandling, Lacka.,	C. C. Rose,	Scranton.
Glenwood	Hillside Coal and Iron Company,	Mayfield, Lacka.,	W. A. May,	Scranton
Erie	Hillside Coal and Iron Company,	Mayfield, Lacka.,	W. A. May,	Scranton
Keystone	Hillside Coal and Iron Company,	Mayfield, Lacka.,	W. A. May,	Scranton
Forest City	Hillside Coal and Iron Company,	Forest City, Susque.,	W. A. May,	Scranton.
Clifford	Hillside Coal and Iron Company,	Forest City, Susque.,	W. A. May,	Scranton.
Richmond No. 3	Elk Hill Coal and Iron Company,	Scranton, Lacka.,	W. H. Richmond,	Dickson City.
Richmond No. 4	Elk Hill Coal and Iron Company,	Richmondale, Lacka.,	W. H. Richmond,	Dickson City.
Mt. Jessup	Mt. Jessup Coal Company,	Winton bor., Lacka.,	Charles P. Ford,	Marshwood
Moosic Mountain	Moosic Mountain Coal Company,	Olyphant bor., Lacka.,	Charles P. Ford,	Marshwood.
No. 1 shaft	Pennsylvania Coal Company,	Dunmore, Lacka.,	Geo. B. Smith, general superintendent,	Dunmore
Gypsy Grove	Pennsylvania Coal Company,	Dunmore, Lacka.,	Alex. Bryden, general mine supt.,	Dunmore.
Gypsy Grove washery	Pennsylvania Coal Company,	Dunmore, Lacka.,	Alex. Bryden, general mine supt.,	Dunmore.
Storrs	Del., Lacka. and Western Railroad Co.,	Dickson City, Lacka.,	W. R. Storrs,	Scranton
Lackawanna	Lackawanna Coal Company,	Olyphant, Lacka.,	O. S. Johnson,	Olyphant.
Johnson's	Johnson Coal Company,	Priceburg, Lacka.,	George D. Kingsley,	Peckville.
Ontario	New York and Susquehanna Coal Co.,	Peckville, Lacka.,	James W. Smith,	Throop
Pancoast	Pancoast Coal Company,	Throop, Lacka.,	Charles D. Sanderson,	Scranton.
Simpson	North Western Coal Company,	Fell twp., Lacka.,	James L. Crawford,	Scranton
Sterrick Creek	Sterrick Creek Coal Company,	Peckville, Lacka.,	John R. Bryden,	Scranton.
Edgerton	Edgerton Coal Company,	Archbald bor., Lacka.,	James L. Crawford,	Scranton.
Blue Ridge	Blue Ridge Coal Company,	Archbald bor., Lacka.,	J. N. Rice,	Scranton.
Dolph	Dolph Coal Company,	Winton, Lacka.,	W. G. Robertson,	Scranton.
Forest Mine	Forest Mining Company,	Archbald, Lacka.,	Edward S. Jones,	Olyphant.
Riverside	Riverside Coal Company,	Archbald, Lacka.,	J. N. Rice,	Scranton.
Murray's	Murray Coal Company,	Dunmore, Lacka.,	M. J. Murray,	Dunmore.
Pierce	Pierce Coal Company,	Winton, Lacka.,	Davy Morgan,	Winton.
Franklin	Franklin Coal Company,	Fell, twp., Lacka.,	Ira J. Meigley,	Carbondale.
Russell B.	Russell B. Coal Company,	Fell twp., Lacka.,	Russell B. Williams,	Scranton.
Thomas Waddell	Thomas Waddell estate,	Winton, Lacka.,	George W. Waddell,	Wilkes-Barre.
S. N. White	Idle all year.			
Mt. Vernon	Idle all year.			
Boger	Idle all year.			

TABLE 2.—Gives the total number of tons of coal mined in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder used, &c., in the First Anthracite District for the year ending December 31, 1896.

Names of Collieries.	Location.	Total production in tons of coal	Total shipment in tons of coal.	Number of days worked.	Number of persons employed.	Number of fatal accidents.	Number of non-fatal accidents.	Number of kegs of powder used.	Number of steam boilers.	Number of horses and mules.	Number of mine locomotives.
Delaware and Hudson Canal Company.											
Leggetts Creek,	Scranton,	214,498	211,240	267.77	623	2	6	5,814	24	55	.....
Marvine,	Scranton,	264,292	262,194	312.50	544	2	5	8,444	21	71	.....
Eddy Creek,	Olyphant,	187,052	187,088	304.00	489	4	5	6,610	18	57	.....
Olyphant No. 2,	Olyphant,	156,387	154,199	265.00	440	2	3	6,252	21	46	.....
Grassy Island,	Olyphant,	226,648	223,428	230.25	467	...	5	7,237	21	53	1
White Oak,	Archbald,	221,516	218,416	211.00	590	1	4	4,796	9	53	1
Jermyn No. 1,	Jermyn,	264,323	261,357	216.50	585	2	.....	5,700	19	45	.....
No. 1 shaft,	Carbondale,	75,138	75,138	216.75	344	..	.....	3,952	7	47	.....
Powderly,	Carbondale,	83,412	83,412	217.75	280	1	.....	4,896	15	30	.....
No. 3 shaft,	Carbondale,	31,194	31,194	224.50	152	....	..	1	1,855	12	16	.....
Coal Brook,	Carbondale,	284,154	284,154	212.25	796	1	5	10,186	7	96	1
Racket Brook,	Carbondale,	*175,829	175,829	216.50	59	.....	.....	.....	5	1	.....
Clinton,	Vandling,	152,447	150,732	224.00	349	3	3	7,163	10	39	.....
Total,		2,336,612	2,316,391	212.60	5,698	21	37	72,905	177	609	3
Hillside Coal and Iron Company.											
Glenwood,	Mayfield,	134,643	122,099	143.50	434	1	2	5,064	10	36	1
Erie,	Mayfield,	136,125	122,871	143.50	441	1	4	5,134	24	47	.....
Keystone,	Mayfield,	37,103	36,068	143.50	119	2	.....	1,276	2	6	.....
Forest City,	Forest City,	†328,327	211,406	143.50	762	3	9	11,740	22	60	6
Clifford,	Forest City,	146,310	234,669	143.50	424	.....	1	6,591	10	44	2
Total and averages,		782,508	728,113	143.50	2,180	7	16	29,805	68	233	9

* This coal was mined at Nos. 1 and 3 shafts and Powderly slope. † Of this quantity of coal 37,383 tons were prepared and shipped from Clifford colliery.

D.L.&H. Coal and Iron Company.											
Richmond No. 2	Dickson City,	43,579	42,706	95.10	168	1	9	1,192	11	15	1
Richmond No. 4	Richmondale,	114,989	113,186	291.50	247	...	5	3,861	4	35	.....
Total and averages,		158,568	155,892	143.30	415	1	14	5,053	15	70	1
Mt. Jessup and Moosic Mountain Coal Company.											
Mt. Jessup,	Winton borough,	95,734	85,784	585.00	330	.....	.....	4,925	19	37	2
Moosic Mountain,	Olyphant borough,	104,132	93,984	185.00	238	.....	2	4,342	8	56	.....
Total and averages,		199,866	179,768	185.00	568	.....	2	8,267	27	93	2
Pennsylvania Coal Company.											
No. 1 shaft,	Dunmore,	127,221	121,742	142.77	406	2	1	4,869	3	36	2
Gypsy Grove,	Dunmore,	114,417	109,636	135.75	322	.....	.....	2,613	3	38	.....
Gypsy Grove washery,	Dunmore,	33,855	32,282	70.50	26	.....	3	.....	2	1	.....
Total and averages,		275,493	263,920	116.33	754	2	4	8,482	8	70	2
Miscellaneous Coal Companies.											
Sacrs,	Dickson City,	476,926	442,806	182.20	1,088	6	10	16,691	12	132	3
La Kawanna,	Olyphant,	255,580	252,013	200.70	733	1	11	9,870	17	72	1
Jermyn's Nos. 1 and 2,	Priceburg,	297,713	295,363	258.00	784	2	7	11[illegible]	33	80	2
Ontario,	Peckville,	194,959	178,092	136.40	662	2	9	9,924	23	71	4
Pinecrest,	Throop,	198,725	196,206	199.00	637	.....	5	8,199	24	73	.....
Simpson,	Fell township,	169,235	158,078	162.00	448	1	5	4,874	24	105	3
Storrick Creek,	Peckville,	162,611	154,703	144.50	592	1	2	6,979	18	40	[illegible]
Dunmore,	Archbald borough,	151,633	142,806	140.16	575	1	2	4,857	8	36	[illegible]
Blue Ridge,	Archbald borough,	183,302	172,788	175.70	544	1	1	7,569	34	79	[illegible]
Delhi,	Winton borough,	120,741	117,954	129.20	500	1	.....	4,737	8	54	[illegible]
Forest Mining Company,	Archbald,	105,521	100,923	74.20	605	.....	1	8,229	19	9	[illegible]
Riverside,	Archbald,	78,637	73,697	159.50	300	2	5	4,662	9	20	.....
Murray,	Dunmore,	54,140	48,643	177.50	85	.....	1	1,959	3	15	.....
Pierce,	Winton,	44,075	40,285	117.20	175	1	2	1,182	11	12	1
Franklin,	Fell township,	101,305	94,506	176.10	127	1	.....	771	3	12	.....
Russell H.,	Fell township,	31,066	30,766	307	132	.....	.....	900	1	5	.....
Waddell,	Winton,	18,279	15,512	102	86	.....	2	1,427	3	8	.....
Total and averages,		2,464,408	2,372,473	1,758	8,062	20	61	99,457	228	849	25

17 Of this production 1,000 tons was obtained from culm bank by washer

Recapitulation. TABLE No. 2.—Continued.

Names of Collieries.	Location.	Total production in tons of coal.	Total shipment in tons of coal.	Number of days worked.	Number of persons employed.	Number of fatal accidents.	Number of non-fatal accidents.	Number of kegs of powder used.	Number of steam boilers.	Number of horses and mules.	Number of mine locomotives.
Delaware and Hudson Canal Company.	Scranton.	2,336,612	2,316,391	212.60	5,608	21	37	72,965	177	609	3
Hillside Coal and Iron Company.	Scranton.	782,508	728,113	143.50	2,180	7	16	29,805	68	213	9
Elk Hill Coal and Iron Company.	Dickson City.	158,560	155,982	143.30	415	1	14	5,053	15	50	1
Mt. Jessup and Moosic Mountain Coal Company.		199,866	179,718	185.00	568	.....	2	8,267	27	63	2
Pennsylvania Coal Company.		275,493	263,920	116.33	764	2	4	8,482	8	70	2
Miscellaneous coal companies.		2,464,408	2,352,175	172.80	8,069	20	61	99,457	228	840	25
Total and averages.		6,217,447	5,996,599	179.40	17,604	51	134	224,929	523	1,845	42

TABLE No. 3 – Showing the Number of each Class of Employes at each Colliery in the First Anthracite District during the year 1896.

Names of Collieries	Number of Persons Employed Inside.							Number of Persons Employed Outside.							Grand total inside and outside.
	Inside foremen.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door-boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All other company men.	Superintendents, book-keepers and outside clerks.	Total outside.	
Leggetts Creek	1	118	118	48	72	15	372	1	5	14	74	57	.....	151	523
Marvine,	1	130	130	40	80	18	399	1	8	12	68	56	.....	145	544
Moxy Creek,	2	108	123	53	65	16	367	1	6	12	60	42	1	122	489
Olyphant No. 2	1	161	107	42	41	35	327	1	4	13	50	44	1	113	440
Grassy Island	1	120	130	26	46	7	330	1	1	15	64	51	.....	135	465
White Oak	2	186	128	22	64	11	413	1	3	4	104	65	.....	177	590
Jermyn No. 1	1	180	174	37	49	22	463	1	5	9	57	47	1	120	583
No. 1 shaft,	1	162	30	36	56	10	295	1	4	3	6	34	1	49	344
Powderly,	1	152	14	46	22	6	241	1	3	5	3	27	.....	39	280
No. 3 shaft,	1	56	18	16	21	5	117	1	2	4	7	20	1	35	152
Coal Brook,	3	268	135	95	59	15	575	1	3	8	100	103	.....	215	790
Bucket Brook	.....	.....	.....	.....	.....	.....	.....	1	.....	2	28	27	1	59	59
Clinton	1	86	94	29	23	18	251	1	6	6	41	44	.....	98	349
Total	16	1,667	1,201	490	598	178	4,150	13	53	107	662	617	6	7,458	5,608
Greenwood	2	116	116	28	48	13	323	1	3	12	52	42	1	111	434
Erie,	2	117	117	24	59	10	329	1	5	11	66	27	2	112	441
Keystone,	1	30	30	6	16	.....	82	1	2	2	18	12	1	36	119

Table No. 3.—Continued.

Names of Collieries.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							Grand total inside and outside.
	Inside Foremen.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door-boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All other company men.	Superintendents, book-keepers and clerks.	Total outside.	
Forest City,	3	240	240	57	80	13	632	1	[illegible]	13	47	57	[illegible]	130	762
Clifford,	1	124	94	14	50	4	287	1	5	7	58	64	[illegible]	137	424
Total,	8	627	597	129	253	40	1,654	5	22	45	241	202	11	526	2,180
Richmond No. 3,	1	41	30	13	13	10	108	1	4	9	27	17	2	60	168
Richmond No. 4,	2	60	70	16	25	10	183	2	5	3	40	12	2	64	247
Total,	3	101	100	29	38	20	291	3	9	12	67	29	4	124	415
Mt. Jessup,	2	84	75	32	18	9	220	1	8	12	79	5	5	110	330
Moosic Mountain,	2	80	85	7	31	3	208	1	5	5	.....	15	4	30	238
Total,	4	164	160	39	49	12	428	2	13	17	79	20	9	140	568
No. 1,	2	127	112	16	29	6	292	1	3	14	60	45	1	124	416
Gypsy Grove,	1	101	93	10	30	7	242	1	2	6	32	38	1	80	322
Gypsy Grove Washery,	.....	.....	.....	.....	.....	.....	.....	1	.....	4	4	17	.....	26	26
Total,	3	228	205	26	59	13	534	3	5	24	94	100	2	230	764

| | | |

Recapitulation. TABLE No. 3—Continued.

Names of Collieries.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							Grand total inside and outside.
	Inside foremen.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All other company men.	Superintendents, book-keepers and clerks.	Total outside.	
Delaware and Hudson Coal Company,	16	1,667	1,201	490	598	178	4,150	13	53	107	662	617	6	1,458	5,608
Hillside Coal and Iron Company,	8	627	597	129	253	40	1,654	5	22	45	241	202	11	526	2,180
Elk Hill Coal and Iron Company,	3	101	100	29	38	20	291	3	9	12	67	29	4	124	415
Mt. Jessup and Moosic Mountain Coal Company,	4	164	160	39	49	12	428	2	13	17	79	20	9	140	568
Pennsylvania Coal Company,	3	228	205	26	59	13	534	3	5	24	96	100	2	230	764
Miscellaneous coal companies,	34	2,156	2,190	512	742	154	3,788	24	123	174	1,140	778	42	2,281	8,069
Total,	68	4,943	4,453	1,225	1,739	417	12,845	50	225	379	2,285	1,746	74	4,759	17,604

TABLE No. 4.—List of Fatal Accidents that occurred in and about the Mines of the First Anthracite District for the Year ending December 31, 1896.

Date of Accident.	Name of Person	Occupation	Age.	Widows	No. of Orphans.	Name of Colliery.	Location. County.	Nature and Cause of Accident.
Jan. 4.	James Newcomb,	Miner,	55	1	6	Marvine,	Scranton,	Fatally injured by a fall of slab rock near the face of his breast. Died on the 7th.
28.	Peter Kearney,	Laborer,	24	...	...	White Oak No. 5,	Archbald,	Instantly killed by a fall of rock while loading a car.
Feb. 8.	Joseph Twiss,	Miner,	39	1	2	Leggetts Creek,	Scranton,	Fatally injured by a fall of rock at the face of a gangway; died on the 15th.
Mar. 2.	Thomas Maloney,	Miner,	23	....	....	White Oak,	Archbald,	Instantly killed by a fall of roof.
6.	John Mullen,	Miner,	34	1	....	No. 1 shaft,	Dunmore,	Instantly killed by a fall of roof at the face of his chamber.
14.	John C. Davis,	Miner,	36	...	...	Storrs No. 2,	Dickson City,	Fatally injured by an explosion of a blast; died in a few hours afterwards.
28.	Anthony Thornton,	Miner,	29	....	....	Forest City shaft,	Forest City,	Instantly killed by a fall of rock from the side of a gangway, where he was turning off a breast.
Apr. 1.	John Collins,	Laborer,	22	....	....	Glenwood,	Mayfield,	Instantly killed by a fall of rock.
9.	Edward Morris,	Miner,	47	1	4	Olyphant No. 2,	Olyphant,	Instantly killed by a fall of rock at the face of a gangway.
13.	John McDonnel,	Laborer,	45	....	....	Storrs No. 3,	Scranton,	Fatally injured by the premature explosion of a blast; died a few days after.
18.	Ralph Abbott,	Rock man,	36	1	7	Eddy Creek,	Olyphant,	These four men were instantly killed by a fall of rock on a new rock plane, on which they were working.
18.	James Abbott,	Rock man,	27	1	3			
18.	John Harvey,	Rock man,	33	1	1			
18.	John McHale,	Rock man,	27	....	...			
28.	Michael Murray,	Company laborer,	65	....	....	Powderly,	Carbondale,	Fatally injured by having been squeezed between a car and the side of a slope.
May 5.	Patrick Moran,	Company man,	82	1	....	White Oak,	Archbald,	Crushed by culm car under breaker; died the same day.
19.	Afton Pish,	Laborer,	26	....	....	Ontario,	Peckville,	Instantly killed by a fall of fire clay.
June 5.	Henry Oakey,	Miner,	56	1	6	Storrs No. 2,	Dickson City,	Instantly killed by a fall of roof at the face of his chamber.
12.	Martin Commons,	Miner,	25	....	....	White Oak,	Archbald,	Instantly killed by a fall of roof, known as "six inch."
13.	Michael Lococh,	Laborer,	48	...	....	Storrs No. 2,	Dickson City,	Fatally injured by a small piece of coal striking him on the head, cutting an artery. He died on the following day.

Table No. 4.—Continued.

Date of Accident.	Name of Person.	Occupation.	Age.	Widows.	No. of orphans.	Name of Colliery.	Location County.	Nature and Cause of Accident.
		Laborer,	21			Jermyn No. 1,	Jermyn,	Fatally injured by a fall of roof; died on reaching home.
June 18,	Steven Griskie,							
24,	Edward Hunt,	Miner,	37			Keystone,	Mayfield,	Instantly killed by a fall of "six inch."
24,	Adam Noack,	Laborer,	38	1	1	Keystone,	Mayfield,	Instantly killed by the same fall.
26,	Benjamin Balsher,	Miner,	33	1		No. 2 shaft,	Forest City,	Fatally injured by an explosion of powder, which occurred while he was in the act of forcing the cartridge to the back of a hole and died on the 29th.
26,	Frank Balsher,	Laborer,	32			No. 2 shaft,	Forest City,	Fatally injured by the same explosion; died in a few hours.
July 10,	Andrew Arncheck,	Laborer,	25			Sturges,	Peckville,	Fatally injured by a fall of rock, which occurred while the miner was barring it down; died in about two hours afterwards.
Aug. 4,	William Gnethey,	Laborer,	20			Clinton,	Vandling,	Fatally injured by being thrown from car on a slope; died in a few hours.
5,	Antone Diago,	Laborer,	27			Edgerton,	Archbald,	Instantly killed by a fall of roof.
10,	John Burnett,	Coal runner,	30			Sterrick Creek,	Peckville,	Fatally injured by falling under a gondola car, which he was running towards the breaker; died shortly after.
10,	Michael Corcoran,	Miner,	56	1	3	Riverside,	Peckville,	Instantly killed by a fall of rock at the face of a gangway.
21,	Steve Vatmouski,	Laborer,	28			Dolph,	Peckville,	Instantly killed by a small fall of rock.
22,	Anthony Polts,	Laborer,	34			Richmond No. 3,	Scranton,	Instantly killed by a runaway car at the foot of the shaft.
22,	Michael Dougherty,	Miner,	28	1		Clinton,	Vandling,	Fatally injured by a fall of coal in a cross-cut; died November 18th.
Sept. 10,	Patrick Long,	Laborer,	35	1	2	Johnsons No. 1,	Priceburg,	Fatally burned by an explosion of gas; died two days after.
10,	Jualis Zeyneski,	Laborer,	34	1	3	Johnsons No. 1,	Priceburg,	Fatally burned by the same explosion; died two days after.
16,	Joe Albestina,	Laborer,	25			Riverside,	Peckville,	Instantly killed at the face of a chamber by a fall of rock.
22	Patrick Flanagan,	Laborer,	46	1	6	Marvine,	Scranton,	Instantly killed by a fall of rock.
24,	Charles Brady,	Slate picker,	12			Pierce,	Winton,	Instantly killed by being squeezed between sheave wheel and frame on culm bank.

	20.	James Mack,	Laborer,	22			No. 2 shaft,	Dunmore,	Instantly killed by having been caught between two cars on gangway road.
Oct.	16.	Nicholas Lemaix,	Driver,	17			Storrs No. 2,	Dickson City,	Instantly killed by a fall of rock on a gangway.
	16.	Steven Crelock,	Laborer,	20			Erie,	Mayfield,	Instantly killed by a fall of rock.
	29.	Thomas Walker,	Miner,	42			Franklin,	Fell township,	Fatally burned by an explosion of powder, which occurred while handling powder with a lamp on his hat.
Nov.	4.	John White,	Miner,	36	1	3	Wilson Creek,	Fell township,	Instantly killed by a fall of roof at the face of his chamber.
	6.	Charles Barkowski,	Miner,	28			Blue Ridge,	Peckville,	Instantly killed by a fall of top coal while barring out some loose coal.
	10.	Thomas P. Williams,	Miner,	35	1	3	Storrs No. 1,	Dickson City,	Fatally burned by an explosion of gas; died a few days after.
Dec.	3.	Daniel Matthias,	Miner,	35	1	3	Leggetts Creek,	Scranton,	Fatally injured by flying coal from a shot; died the following day.
	4.	Matthew Simon,	Miner,	32			Jermyn No. 1,	Jermyn,	Fatally injured by a fall of top coal; died two days after.
	4.	Lawrence Dubill,	Laborer,	31	1		Simpson,	Fell township,	Fatally injured by a fall of top coal; died in two hours.
	10.	James Bannan,	Driver,	17			Olyphant,	Olyphant,	Fatally injured by a small fall of bone coal; died on January 7, 1897.
	12	John Sholtus,	Laborer,	27	1		Lackawanna,	Blakely,	Instantly killed by a fall of rock.
	22	William Kearney,	Laborer,	20			Clinton,	Vandling,	Fatally injured by a fall of rock.

TABLE No. 5.—List of Non-Fatal Accidents that occurred in and about the Mines of the First Anthracite District for the Year ending December 31, 1896.

Date of Accident.	Name of Person	Occupation	Age.	Name of Colliery	Location.	Nature and Cause of Accident.
Jan. 9,	Patrick Tenpenny,	Miner,	30	Glenwood,	Mayfield,	Injured on body by a fall of rock while working out the bottom bench after a shot.
11,	Andrew Goebs,	Laborer,	18	Riverside,	Peckville,	Injured on body by a fall of bell shaped rock while shoveling coal at the face of a breast.
13,	Joseph Twiss,	Driver,	16	Marvine,	Scranton,	Foot crushed by a loaded car passing over it.
16,	Joseph Sabolio,	Driver,	17	Pancoast,	Throop,	Seriously injured by falling under a loaded car.
20,	John Malay,	Miner,	35	Wilson Creek,	Fell township,	Shoulder injured and hand cut by a fall of rock, which occurred while he was barring out loose coal after a shot.
21,	Andrew Burrow,	Laborer,	32	Grassy Island,	Olyphant,	Thigh fractured by a fall of rock while assisting the miner to replace a displaced prop.
22,	John Lynn,	Runner,	25	Pancoast,	Throop,	Leg crushed by a car that jumped the track.
25,	Garrett Howie,	Miner,	50	Lackawanna,	Blakely,	Arm fractured by a fall of rock that occurred as he was preparing to stand a prop.
27,	Joseph York,	Company laborer,	50	Ontario,	Peckville,	Leg fractured by having been struck by a rope on a plane, which slipped off a pulley.
31,	William Jones,	Driver,	18	No. 2 shaft,	Forest City,	Leg fractured by falling under a car.
Feb. 3,	Michael Rocinko,	Driver,	22	No. 2 shaft,	Forest City,	Fingers mashed by a car passing over them while he ws trying to close a latch between two cars while they were in motion.
6,	Charles Kelly,	Miner,	50	Richmond No. 3,	Scranton,	Both these men were slightly burned by an explosion of gas in a cavity at the face of the breast in which they were working.
6,	Patrick McNulty,	Miner,	50	Richmond No. 3,	Scranton,	
12,	John Murther,	Miner,	49	Leggetts Creek,	Scranton,	Back and hips injured by a fall of rock.
14,	Richard Caffrey,	Driver	22	Edgerton,	Archbald,	Toe cut off by a lump of coal which fell off a car when it jumped the track.
15,	John Doliaski,	Miner,	28,	Johnson No. 1,	Priceberg,	Leg fractured and face slightly cut by a fall of rock which happened while he was mining out some coal from under it.
19,	Henry Wittington,	Miner,	50	Coal Brook,	Carbondale,	Face cut by a fall of what is known as "two inch;" a shot had just been fired in the "fourteen inch" under it, and when he went back he did not notice the "two inch."

Mar	2.	John Conners,	Miner,		White Oak,	Archbald,	Seriously injured by a fall of bell shaped rock at the face of his breast; the same fall killed his fellow miner.
	13.	Joseph Postula,	Driver,	26	Johnson No. 1,	Priceburg,	Both legs fractured and head cut by a fall of middle rock which occurred shortly after a shot had been fired in the bottom coal.
	14.	Robert Craig,	Engineer,	21	Ontario,	Peckville	Leg badly lacerated by having been squeezed between car and engine. He was getting coal for the engine from a car when the engine from some cause unknown to him started and caught him.
	18.	Hugh Boyle,	Runner,	18	Simpson,	Fell township	Severely bruised by falling under an empty car, which ran over him. He was trying to get on the car but missed his hold and fell under it.
	20.	David Smith,	Footman,	24	Forest City Slope,	Forest City,	Leg severely cut by the wheels of an empty car passing over it. He was trying to uncouple a moving trip of empty cars when he fell under them.
	21.	Michael Schultz,	Miner,	45	Forest City slope,	Forest City,	Leg badly fractured by a fall of bell shaped rock, which occurred at the face of a breast while he was working out a recently fired shot.
	24.	Michael Reap,	Miner,	45	Sterrick Creek,	Peckville,	Slightly injured by the explosion of a shot. The shot had missed fire and thinking the powder was damp he commenced to reopen the hole and when he reached the powder it exploded.
Apr.	13.	Richard Warren	Miner,	51	Storrs No. 3,	Scranton,	Seriously injured by flying coal from a shot. While he was tamping a hole the needle worked out; he pushed it back and was holding the powder back with the drill when it exploded, injuring both miner and laborer, the latter so severely that he died.
	15.	Andrew Kalnoski,	Laborer,	40	Johnson No. 2,	Priceburg,	Leg fractured by a fall of middle rock.
	21.	John W. Pierce,	Driver,	16	Grassy Island,	Olyphant,	Leg fractured by being knocked down by a car from which he jumped.
	21.	Martin Murray,	Watchman,	82	No. 3 shaft,	Carbondale,	Arm badly fractured by being caught between engine crank and wall while cleaning the engine.
	26.	Richard Jones,	Miner,	36	Clinton,	Vandling,	Small bone of leg fractured by a flying piece of coal from a shot. He was about to light the squib when in some unaccountable way the shot went off.
	27.	John Gildea,	Miner,	63	White Oak,	Archbald,	Leg and arm fractured by a fall of shelly rock five by six feet in size and about one inch thick. The fall occurred while his fellow miner was making an examination of the roof after firing a hole in the top coal.
	29.	Hubert Thomas,	Driver,	18	Riverside,	Peckville,	Kicked on the stomach by a mule.
	30.	Patrick Crane,	Laborer,	35	Eddy Creek,	Olyphant,	Leg fractured by a fall of roof rock, measuring four feet by six, and four inches thick.
May	6	William McHale,	Driver,	17	Marvine,	Scranton,	Leg fractured by having been squeezed between two bumpers. He was driving on to the branch and failed to get his stretcher unhitched in time

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Table. No. 5.—Continued.

Date of Accident.	Name of Person.	Occupation.	Age.	Name of Colliery.	Location County.	Nature and Cause of Accident.
May 13,	Joseph Bage,	Laborer,	28	Lackawanna tunnel,	Blakely,	Back injured by a fall of rock at face of breast. He had retreated from the face by orders of the miner, who had discovered that the roof was "working," but returned to get a shovel, when he was caught.
13,	Thomas H. Edmonds,	Laborer,	19	Grassy Island,	Olyphant,	Leg bruised by flying coal from a shot. There were two miners and two laborers engaged in a breast; each party of two men was tamping each a hole; one finished before the other and went back some distance. Edmonds, who was injured, went over to this hole to get some tamping and in stooping down must have ignited the squib, which caused the hole to explode.
23,	Charles Sullivan,	Miner,	30	Marvine,	Scranton,	These men were working in a breast. Sullivan was drilling a hole, while Duggan was by his side sharpening machine bitts when a piece of coal from the face and a small piece of rock fell on them, seriously injuring Sullivan's back and causing a compound fracture of Duggan's leg.
23,	John Duggan,	Miner,	42	Marvine,	Scranton,	
23,	Joseph Medlgrow,	Laborer,	24	Lackawanna tunnel,	Blakely,	Shoulder and side injured. He was pulling a block so as to let the car down the breast and it started but jumped the track, causing the rear end to swing around and knock him against a prop.
June 2,	John Williams,	Runner,	19	Pancoast,	Throop,	Two fingers cut off. He was running a loaded car down a grade and riding on the rear end, when the front end jumped the track and threw the rear end up against the roof, with the above result.
2,	Benjamin O Williams.	Miner,	57	Leggetts Creek,	Scranton	Head and thigh injured. While barring at a small piece of top coal he slipped just as the piece was falling and was struck by it.

	5.	John Oakey.	Laborer.	19	Storrs No. 2.	Dickson City.	Severely injured by a fall of rock at the face of a breast worked by his father, who was killed by the same fall. They were engaged lifting bottom rock and it is thought that the shots fired in the bottom threw the rock against the roof, which caused this slab to become loose and fall.
	11.	William Pooler.	Laborer.	28	Moosic Mountain.	Marshwood.	Shoulder bone broken and hip injured by a fall of a bell shaped rock. There was a thin slab of rock underneath the bell, which prevented it from being seen.
	11.	Harrison Pyrah.	Driver.	18	Lackawanna.	Blakely.	Arm fractured. He was riding out on the front end of a car and in stepping from one bumper to another he fell between them.
	12.	Martin Murphy.	Laborer.	24	White Oak.	Archbald.	Badly cut on head and injured on body by a fall of "six inch" roof. He and a miner named Martin Commons, who was killed, were throwing coal from a cross cut when the fall occurred. The father of the man who was killed stated that he had examined the roof before leaving for home and thought it perfectly safe.
	18.	Anthony Sherotski.	Miner.	41	Forest City slope.	Forest City.	Leg fractured and face cut. He had just fired a shot which had knocked a prop out and was in the act of replacing it when the fall took place, which caused the injury.
	18.	William Turko.	Miner.	30	Ontario.	Peckville.	Leg fractured, struck by a rope on a plane while moving his tools from one part of the plane to another. He moved from a place of safety on to the plane just as the engineer gave the signal to hoist.
July	3.	Valentine Pennar.	Laborer.	28	Simpson.	Fell township.	Severely injured on back by a fall of rock at the face of chamber while he was engaged loading a car.
	8	John Prush.	Miner.	35	Simpson.	Fell township.	Slightly injured on back by a fall of what is known as "fourteen inch."
	12.	Frank Magor.	Miner.	44	Eddy Creek.	Olyphant.	While running back from a shot which he had ignited at the face of a breast he slipped and fell on a prop and was severely injured on the abdomen.
	13.	Michael Gregor.	Miner.	29	Lackawanna tunnel.	Blakely.	The miner working the chamber next to this man's fired a shot which broke into a cross cut previously drawn by Gregor. A small piece of coal struck him on the hip.
	14	Cassidy Doudney.	Miner.	50	Richmond No. 3.	Scranton.	Slightly injured on body by the premature explosion of a shot. He cut the squib too short and the shot exploded before he got out of the way.
	17.	Anthony Griskey.	Miner.	45	Johnson No. 2.	Priceburg.	Three ribs fractured by a fall of rock three inches thick and four feet square, which fell a short time after he had been barring loose coal from under it.

Table No. 5.—Continued.

Date of Accident.	Name of Person.	Occupation.	Age.	Name of Colliery.	Location.	Nature and Cause of Accident.
July 20,	Edward Curtis,	Miner,	51	Lackawanna tunnel,	Blakely,	Back injured and two ribs fractured by a fall of slab rock six feet square and four inches thick. It fell while he was preparing a place to put a prop under it.
22,	Wallock Slaboda,	Miner,	34	Moosic Mountain,	Marshwood,	Hip dislocated by the fall of a slab of rock; he had just fired a shot by which two props had been displaced. He was replacing them when the fall took place.
25,	John Ashman,	Driver,	17	Johnson No. 1,	Priceburg,	Leg broken by a mule stepping on it. He was hauling a loaded car out along the gangway when the stretcher caught between the wheel and the rail, causing the mule to stop. He fell from the car and the mule trod on him.
30,	Enoch Barriman,	Miner,		Pancoast,	Throop,	Slightly burned on the face by an explosion of gas.
30,	William Scanlon,	Brakeman,	22	Sterrick Creek,	Peckville,	Was riding on a bumper of a car when it jumped the track and the bumper caught the fleshy part of his leg, badly cutting and tearing the flesh.
Aug. 3,	George Witman,	Driver,	16	Clifford,	Forest City,	Fell under a trip of loaded cars just as they were about stopping at a head block and was quite seriously squeezed.
6,	Joe Voshepskie,	Driver,	19	Forest City slope,	Forest City,	Arm fractured by having been caught between a mule and the front part of a car. The stretcher caught in the rail, causing the mule to stop while the cars ran on and bumped the mule.
8,	Anthony Duffy,	Miner,	55	Coal Brook,	Carbondale,	Back and leg injured by a fall of rock that occurred shortly after a shot had been fired.
18,	John Roache,	Laborer,	24	Richmond No. 4,	Richmondale,	Severely injured by a fall of top rock at the face of a chamber in which he was employed.
18,	William T. Wait,	Driver,	16	Richmond No. 4,	Richmondale,	Foot slightly injured by a car getting off the track.
19,	John Munley,	Company laborer,	57	White Oak,	Archbald,	Seriously injured by having been knocked down by a loaded trip of cars.

	18.	John Serowa,	Laborer,	34	Blue Ridge,	Peckville,	Hips injured by having been squeezed between buntons in shaft and carriage while in the act of getting on the carriage after signal had been given to hoist.
	24.	Thomas Smith,	Miner,	36	Richmond No. 4,	Richmondale,	Both these men were injured by a fall of what is known as a "saddle" rock. The miner was not seriously injured but the laborer's back was badly hurt and two fingers were cut off.
	24.	Edward Dotter,	Laborer,	19	Richmond No. 4,	Richmondale,	
Sept.	1.	John Haggerty,	Driver,	16	Leggetts Creek,	Scranton,	Arm fractured by a rock dump car tipping and catching his arm between it and the frame.
	1.	John Newberry,	Driver,	22	Storrs No. 1,	Dickson City,	Leg fractured above the knee by a loaded car jumping over a head block and striking his leg.
	2.	Anthony Kearney,	Driver,	16	Leggetts Creek,	Scranton,	Arm fractured by having been caught between the car and prop. He was riding on the bumper sliding his foot along the rail. There was some water on the track and to prevent his feet from getting wet he made an effort to lift himself higher and in doing so his arm was caught.
	3.	John Lapotskey,	Runner,	20	Simpson,	Fell township,	While picking coal in a breast a piece fell and struck him on the leg and broke it.
	5.	Andrew Zevonchuck,	Laborer,	20	Erie,	Mayfield,	Hip dislocated and head cut by a fall of "buck" at the face of a breast.
	7.	Joseph Luskuski,	Laborer,	28	Simpson,	Fell township,	Leg fractured by a fall of rock.
	7.	Michael Rutishuti,	Miner,	25	Riverside,	Peckville,	Hip dislocated by a fall of slab rock which occurred while he was about to replace a prop which had been displaced.
	9.	William Carris,	Laborer	34	Lackawanna Tunnel,	Blakely,	He was about to start with his loaded car from the face of his breast but the car ran over the block and jumped the track, catching him between the car and a prop, and his arm was broken.
	12.	Venzil Steeler,	Miner,	47	Storrs No. 2,	Dickson City,	A slab of rock from the roof displaced a prop which fell on him and fractured three of his ribs.
	12.	Simon Lecapish,	Laborer,	26	Grassy Island,	Olyphant,	Small bone of leg fractured by a small piece of slab rock sliding against it.
	14.	Richard O'Brien,	Blacksmith,	27	Forest City,	Forest City,	Knee cap dislocated and wrist sprained by being thrown by a belt in which his apron became fastened while stepping over it.
	14.	Thomas Burke,	Driver,	17	Gypsy Grove,	Dunmore,	Leg broken by having been squeezed between two cars.
	16.	Dominick Pistone,	Miner,	36	Riverside,	Peckville,	Seriously injured by a fall of middle rock, which occurred while he was working out the coal loosened by a shot that had just been fired. The laborer was killed by the same fall.
	18.	Richard McAndrew,	Driver,	15	Gypsy Grove,	Dunmore,	Badly bruised by falling under a culm car. He was trying to cross in front of the car while it was in motion and slipped on the rail.
	19.	Joseph Dobinson,	Runner,	20	Johnson No. 1,	Priceburg,	Small bone of leg fractured. He was trying to hold back a trip of cars when they bumped together.
	21.	William Jones,	Laborer,	26	Eddy Creek,	Olphant,	Hip dislocated by a fall of top and bony coal, which occurred at the face of a breast while he was loading a car.

Table No. 5.—Continued.

Date of Accident.	Name of Person.	Occupation.	Age.	Name of Colliery	Location.	Nature and Cause of Accident.
Sept. 22,	Thomas Hird,	Miner,	24	Clinton,	Vandling,	Hips bruised by having been squeezed between two cars.
22,	John Krachen,	Laborer,	22	Simpson,	Fell township,	Badly injured by a fall of rock four or five inches thick. It fell at the face of a breast and also caught the miner and injured him slightly.
22,	Alexander Mester,	Laborer,	35	Ontario,	Peckville,	Leg fractured and collar bone dislocated. He was walking on empty car track on a branch and stepped across to the loaded track and was struck by a trip of loaded cars.
25,	Robert Bradbury,	Laborer,	21	No. 2 shaft,	Forest City,	Leg broken by a fall of rock. He and his miner were replacing a prop which had recently been displaced when a small piece of rock fell with above result.
26,	Joseph Sheddo,	Laborer,	23	Lackawanna Tunnel,	Blakely,	Leg fractured by a fall of rock. Both miner and laborer were shoveling coal when a shanty piece of rock fell close to the face of the breast.
30,	Thomas Cusick,	Miner,	38	Olyphant No. 2,	Olyphant,	Arms burned by an explosion of powder. He was taking a small tin cup full of powder to the face to charge a rock hole, when a spark from his lamp fell into the powder with above result.
30,	Paul Vitko,	Miner,	33	Lackawanna,	Blakely,	Ribs fractured and spine injured. He was lying on a truck and he put his back against a prop to push the truck over a short distance. While doing this the prop gave away and a small slab of rock two inches thick and three feet long fell upon him.
30,	Andrew Rogess,	Miner,	23	Ridge shaft,	Archbald,	Cut on face and hands by flying coal from a shot. He was about to fire a shot and ignited the squib when at that moment his light went out. He turned around to pull the squib out when the shot exploded.
Oct. 2,	Evan Griffith,	Driver,	17	Lackawanna,	Blakely,	Skull fractured by a kick from a mule.
5,	Alfred Curwardine,	Miner,	25	Loggerts Creek,	Scranton,	Rib fractured and otherwise injured by a fall of rock that occurred as he was about to place a collar under to support it.

5.	Anthony Slantho	Laborer.	21	Erie	Mayfield	Squeezed about the breast by a car running on him. He was spiking a rail about seven feet from where a car stood on a heavy grade. The hammering shook the blocks from under the car and it started and ran on him.
7.	Martin Joyce.	Miner.	25	Murrays.	Dunmore.	He was mining out a portion of the coal that remained after firing a shot, when a piece of bone four feet long, three feet wide and three inches thick fell on him and dislocated his hip.
9.	Robert Benson	Runner	24	Pancoast.	Throop.	Squeezed between a door and car. He was running a car out of a breast and jumped on the front bumper. A door at the foot of the breast was closed and he was squeezed between it and the car.
12.	Peter Mila	Miner	25	Riverside.	Peckville.	Cut on the head and face by flying coal from a shot. He thought a shot which he was firing had missed and went back to see and just reached the face when it went off.
13	Michael Rak	Laborer	24	Glenwood.	Mayfield.	Injured on body by a fall of small piece of what is known as "buck" while barring out some bottom coal.
14	Michael Cairns	Laborer	24	Richmond No. 1	Richmondale.	Arm cut and rib fractured by a "collar" falling on him. He had gone to an adjoining chamber to help a fellow miner to put up a collar. After lifting it up they neglected to properly fasten it and before he could get out of the way it fell on him.
16.	Anthony Mcquaggan	Sinker	24	Richmond No. 3	Scranton.	Badly injured by fall in shaft. He was chargeman of the shaft and was on a platform some distance from the bottom. He was driving a spike into the guide with one hand and pushing the guide into place with the other and it is supposed he pushed the platform plank off the bunton.
16.	John Greil	Miner.	28	Erie.	Mayfield.	These two, along with another man who was killed, were lifting an empty car on the track when a large piece of rock fell from the edge of a knoll. These two were but slightly injured. The miner had tried several times to pull the piece down but had failed.
16.	Frank Walker.	Driver	17	Erie	Mayfield.	
18	Albert Lloyd	Driver	16	Leggetts Creek.	Scranton.	Knee cap fractured. He was bumping up a car to a trip and was caught between the bumpers.
20.	Elias Sargent	Miner.	26	Marvine	Scranton.	Collar bone fractured in two places and otherwise injured by a fall of rock. He had just fired a shot and after a short time went back to see results and found that a prop had been displaced. He waited for some time and then began to clear a place for the prop and while doing this a piece of the overhanging slab fell and pressed him against the coal or the prop, with the above results.

Table No. 5.—Continued.

Date of Accident.	Name of Person.	Occupation.	Age.	Name of Colliery.	Location	Nature and Cause of Accident.
Oct. 20.	John Deblitz,	Miner,	45	Lackawanna Tunnel,	Blakely,	Breast bone broken by a small piece of soft roof falling on him.
21.	John Babish,	Laborer,	44	Waddell,	Winton,	Injured on body by a fall of rock that occurred
21.	Joe Tarrick,	Miner,	32	Waddell,	Winton,	while they were putting up a prop to support it.
22.	Steve Vlitce,	Miner,	38	Johnson No. 2,	Priceburg,	Leg fractured by a fall of rock. He had been taking down rock and thought he had pulled down all that was loose and began to clear it away when a piece fell on him.
22.	John Chelsco,	Driver,	18	No. 1 shaft,	Dunmore,	Leg badly crushed by car running over it. He was coming out of the gangway to a branch with a trip of three loaded cars when his light went out and by getting off the bumper he stumbled and fell under the car.
22.	Michael Mulderic	Driver,	17	Olyphant No. 2,	Olyphant,	Leg broken by a car running on him. He was riding on the bumper when his foot caught in a tie and pulled him under.
Nov. 5.	James Parker,	Laborer,	24	Gypsy Grove,	Dunmore,	Back, hips and leg injured by a fall of bony coal and rock, which occurred in a cross cut.
6.	David Morris,	Miner,	30	Olyphant No. 2,	Olyphant,	Leg fractured by a fall of rock. He fired a shot in the coal at the face of his breast, which as he found on his return had knocked out several props. Just as he got back, another prop fell and knocked him down and a slab of rock fell and broke his leg.
6.	George Manastick,	Laborer,	24	Highland Park,	Carbondale,	Back slightly injured by a fall of rock.
9.	Michael Cormick,	Outside laborer,	28	Pierce,	Winton	Arm mashed by being caught between two railroad cars.
10.	Pierce Johnston,	Miner,	50	Storrs No. 1,	Dickson City,	These five men were all more or less severely burned by an explosion of gas which was caused by another man going with a naked lamp into a place which was thought to be safe, but which at this time, unknown to anyone, contained a considerable body of gas.
10.	Matthew Horgock,	Miner	42	Storrs No. 1,	Dickson City,	
10.	John Pingo,	Laborer,	30	Storrs No. 1,	Dickson City,	
10.	Joe Andraky,	Laborer,		Storrs No. 1,	Dickson City,	
10.	George Smith,	Laborer,	24	Storrs No. 1	Dickson City,	
16.	John Sissuski,	Laborer,	43	No. 2 shaft,	Forest City,	Head injured, forehead, nose and cheek cut and back injured by a fall of slanty rock, which occurred at the face of a gangway.

	17.	Stephen Atherton,	Timberman,	42	Eddy Creek,	Olyphant	Leg fractured by a piece of rock sliding against it while he was engaged cleaning up a fall
	20.	Evan Roberts,	Miner,	30	Grassy Island,	Olyphant,	Leg broken and shoulder dislocated by a fall of fire clay from the rib.
	21.	Joseph Guboski,	Miner,	35	Pierce,	Winton,	Leg severely cut by a fall of rock, which took place while he was barring down a piece of coal
	26.	Thomas Courtney,	Pump man,	27	Richmond No. 3	Scranton,	These five men were slightly burned by the ignition of a strong blower of gas at the foot of the shaft.
	26.	Thomas Hall,	Sinker,	45	Richmond No. 3,	Scranton,	
	26.	Frederick Nulty,	Sinker,	45	Richmond No. 3,	Scranton,	
	26.	John Ryan,	Sinker,	24	Richmond No. 3,	Scranton,	
	26.	John Gordon,	Sinker,	30	Richmond No. 3,	Scranton,	
	27.	Michael I. Langan,	Miner,	40	Coal Brook,	Carbondale,	Head cut and hip bruised by flying coal from a shot. He had drilled two holes and had tamped one and withdrawn the needle and placed a squib in the hole ready to fire. He stooped to gather some tamping for the other hole and in doing so his lamp ignited the squib in the first hole and caused it to explode
	27.	Evan C. Davis,	Miner,	50	Storrs No. 2,	Dickson City,	Hips injured by a fall of rock. He had just fired a shot and was working out a piece of coal when a slab of rock fell on him
	7.	John Stevens,	Miner,	34	Eddy Creek,	Olyphant,	Bruised on body and face by flying coal from a prematurely fired shot. The miner was about to light the squib and while in the act ignited a blower of gas, which caused the squib to burn rapidly and exploded the powder before they could escape.
Dec	7.	John Scott,	Miner,	35	Simpson,	Fell township,	After firing a shot he went to the face of breast and a piece of rock fell on him, cutting his head and forcing his face against the loose coal on the bottom.
	11.	David Brown,	Doorboy,	15	Clinton,	Vandling,	This boy undertook to start a mule with a loaded trip; the mule slipped on the rail and fell over on him, causing a compound fracture of one of his legs.
	19.	Michael Zubus,	Rockman,	35	Ontario,	Peckville,	Seriously bruised by a bucket descending on him while he was at work drilling at the foot of a new air shaft. The engineer left the engine house for a short time and in some unknown manner the engine started.
	29.	Arthur Lown,	Laborer,	22	Coal Brook,	Carbondale,	Cut on arm and leg by flying coal from a shot. The miner next to Scott was driving a cross cut and was about to fire a shot. Before doing so he sent his laborer to give Scott warning. After shouting and getting no answer he thought there was no one in the place and told his miner to fire, which he did with above result.

SECOND ANTHRACITE DISTRICT.

(LACKAWANNA COUNTY.)

Scranton, Pa., February 16, 1897.

Hon. James W. Latta, Secretary of Internal Affairs:

Sir: I have the honor of presenting my annual report as Inspector of Mines for the Second Anthracite district for 1896.

I assumed the duties of this office October 29, 1896, consequently my report is not as complete in some respects as it would have been, had I been in the office during the entire year.

The total production of coal for the year was 5,895,669 tons, or 293,826 tons less than the production for 1895.

The number of lives lost in and about the mines was 39, an increase of 5 over 1895.

The number of non-fatal accidents was 161, or 31 less than 1895.

The quantity of coal produced per life lost was 151,171 tons.

The quantity of coal produced per accident was 29,478 tons.

The usual tables and statistics are included, with a brief description of improvements made, and a few remarks on the fatal accidents.

Respectfully submitted,

H. O. PRYTHERCH,

Inspector.

Table A.—Showing the Production of Coal, the Number of Persons Employed by each Company during the year 1896, and the Average number of tons produced per employe.

Names of Companies.	Number of tons produced.	Number of men employed.
Delaware, Lackawanna and Western Railroad Company,	2,860,864.02	7,514
Austin Coal Company,	56,706.02	280
Delaware and Hudson Canal Company,	466,645.17	1,220
Lackawanna Iron and Steel Company,	416,436.06	1,189
William T. Smith,	196,012.00	509
O. S. Johnson,	147,361.03	500
Pennsylvania Coal Company,	322,946.00	1,065
William Connell & Company,	142,749.00	461
The Connell Coal Company,	393,997.00	922
Greenwood Coal Company, Limited,	202,004.28	788
Jermyn & Co.,	296,716.10	1,021
Elliott, McClure & Co.,	87,867.19	358
West Ridge Coal Company,	116,798.12	352
E. D. & F. M. Spencer,	114,329.09	284
Nay Aug Coal Company,	49,326 00	120
Providence Coal Company,	.....	4
Columbus breaker mine,	24,912.00	19
Spring Brook Coal Company, Limited,	.....	47
Total,	5,895,669.08	16,353

Note.—Number of tons produced per employe, 360+.

Table B.—Number of Fatal Accidents and Quantity of Coal Produced per life lost.

Names of Companies.	Number of fatal accidents.	Number of tons of coal produced per life lost.
Delaware, Lackawanna and Western Railroad Company,	15	190,724
Delaware and Hudson Canal Company,	6	77,774
Lacakawanna Iron and Steel Company,	5	83,287
Pennsylvania Coal Company,	3	107,648
All other companies,	10	182,877
Total and average,	39	151,171

Table C.—Number of Fatal and Non-Fatal Accidents and tons of Coal Produced per Accident.

Names of Companies.	Number of accidents.	Tons of coal produced per accident
Delaware, Lackawanna and Western Railroad Company,	39	32,144
Austin Coal Company,	5	11,341
Delaware and Hudson Canal Company,	28	29,165
Lackawanna Iron and Steel Company,	23	18,105
William T. Smith,	8	32,668
O. S. Johnson,	5	29,472
Pennsylvania Coal Company,	7	54,589
William Connell & Co.,	5	23,190
Connell Coal Company,	5	56,285
Greenwood Coal Company, Limited,	13	15,508
Jermyn & Co.,	16	18,541
Elliott, McClure & Co.,	1	87,867
West Ridge Coal Company,	1	23,459
E. D. & F. M. Spencer,	**1**	**114,329**
New Ann Coal Company,	1	24,660
Total and average,	200	+29,478

Table D.—Classification of Accidents.

Classification of Accidents.	Killed or fatally injured.	Injured.	Total.
By falls of coal,	1	19	20
By falls of rock and roof,	19	42	61
By fall of gob,		1	1
By coal flying from blasts,	1	4	5
By explosions of gas,	1	8	9
By explosions of blasts,	2	9	11
By kicks from mules,	1	7	8
By cars, inside,	10	47	57
By cars, outside,	1	3	4
By falling down shafts,	2	7	9
By breaker machinery,		1	1
By careless use of powder,		4	4
Miscellaneous, inside,		13	13
Miscellaneous, outside,		3	3
Total,	39	161	200

Table E.—Occupations of Persons Killed and Injured.

Occupations.	Killed or fatally injured.	Injured.	Total.
Miners	14	63	77
Laborers	12	39	51
Drivers	5	30	35
Runners	1	7	8
Footmen	1	1	2
Headmen		4	4
Mine carpenters	1	1	2
Masons		1	1
Slate pickers		2	2
Driver boss		1	1
Brakeman		1	1
Doorboys	1	2	3
Drivers' helpers		3	3
Outside laborers	1	1	2
Outside runners		1	1
Company men (outside)		2	2
Pumpmen	2		2
Mine foremen	1		1
Miscellaneous		2	2
Totals	39	161	200

Table F.—Nationality of Persons Killed and Injured.

Killed and Injured.	American.	Scotch.	Irish.	Welsh.	English.	Hungarians.	Poles.	Italians.	German.	Swede.	Slavs.	Total.
Killed or fatally injured	6	1	8	8	4	2	5	1	1	1		39
Injured	13	2	56	21	10	6	26	13	12	1	1	161
Total	19	3	64	29	14	8	33	14	13	2	1	200

Examination of Applicants for Mine Foreman and Assistant Mine Foreman's Certificates.

The annual examination of applicants for certificates of qualification for mine foremen and assistant mine foremen was held in the Municipal Building, Scranton, Pa., November 6 and 7, 1896. The board of examiners was composed of the following persons: H. O. Prytherch, Inspector of Mines; James Young, superintendent; John R. Jones, miner; R. H. Salmon, miner.

The following were recommended to receive mine foreman's certificates:

David Jenkins, Scranton.
William W. Baird, Dunmore.
John M. Dobbie, Pittston.
Evan H. Evans, Scranton.
Thomas McWilliam, Moosic.
Thomas F. Cook, Pittston.
M. I. Garvey, Pittston.
John T. Brown, Avoca.
William Watkins, Scranton.
I. A. Garvey, Pittston.
Dd. F. Davies, Scranton.

The following were recommended to receive assistant foreman's certificates:

Thomas Parry, Scranton.
William McDowell, Scranton.
James Tibbs, Rendham.
Rd. R. Hughes, Scranton.
John R. James, Scranton.
Samuel C. Evans, Taylor.
Benjamin J. Rees, Rendham.
John W. Jenkins, Scranton.

Mine Improvements During 1896.

The improvements made in this district during the past year, such as new openings, shafts, planes, tunnels, slopes, boilers, etc., are the following:

The Delaware, Lackawanna and Western Railroad Company.

Bellevue Shaft. A tunnel 7 x 12 feet was driven from the Clark vein to the New County vein, a distance of 911 feet, on a grade of two and one-half inches on ten feet.

Continental Shaft. A plane was driven on a grade of 11 degrees. Sectional area, 9 x 16 feet; length, 328 feet.

Dodge Shaft. A tunnel was driven and completed: sectional area, 72 square feet; length, 300 feet.

Diamond Mine. A tunnel was driven from the "seven foot" seam to "Church vein," 300 feet long and 84 feet sectional area. A new drift was also driven on a level having 60 feet sectional area; length, 900 feet.

Diamond No. 2 Shaft has been enlarged from 10 x 40 feet to 12 x 40 feet from the surface to the New County vein, and extended from New County vein to the Clark vein at 12 feet by 33 feet 5 inches, and is now being sunk at these dimensions to the lower "Dunmore" veins.

A new fan has been erected, dimensions 6 x 16 feet.

Hyde Park Shaft. A new plane was driven on a grade of one and one-half inches on ten feet. Sectional area, 7 x 14 feet; length, 395 feet. Another plane was driven on a grade of one inch in ten feet; sectional area, 7 x 12 feet; length 310 feet.

Manville Shaft. A new slope of the following dimensions was driven: Length, 1,100 feet; sectional area, 84 square feet; gradient, two and one-half degrees.

Holden Shaft. A plane of the following dimensions was driven: Length, 112 feet; sectional area, 60 square feet; grade, 27 degrees.

Delaware and Hudson Canal Company.

This company is opening up No. 3 Dunmore vein, and preparing for the installation of an extensive system of tail top haulage at their "Dickson" mine.

Von Storch Mine. A plane of the following dimensions has been completed during the year: Length, 238 feet; sectional area, 14 x 7; gradient, 2 in 10.

Lackawanna Iron and Steel Company.

A tunnel has been driven from this company's "Pine Brook" mine from No. 2 Dunmore vein through a fault a distance of 820 feet, and it was intended to reach the same vein, but the vein they found resembles Dunmore No. 3.

William T. Smith.

Mount Pleasant Mine. A tunnel was driven from the four-foot to the five-foot vein; length, 200 feet; sectional area, 7 x 8 feet.

Pennsylvania Coal Company.

At No. 5 Dunmore shaft two planes have been driven, one in the Clark vein, 400 feet long, 90 square feet sectional area, 9 degrees gradient.

One in the Bottom vein 760 feet long; 90 square feet sectional area, 5 degrees gradient.

A slope is being driven in the Second Dunmore vein, and another in the Third Dunmore vein.

Three Babcock & Wilcox water tube boilers of 450 H. P. are in course of erection.

Nos. 1 and 2 Shafts, Old Forge and Breaker. At Old Forge breaker four Babcock & Wilcox water tube boilers of 600 horse power in two nests or batteries were erected in 1896. Pressure carried, 110 pounds. They were put in operation November 27, 1896, and supply steam to Old Forge breaker, Old Forge shaft No. 2, and to shaft No. 13 of Central Colliery, and have supplanted three cylindrical boilers 60 feet by 30 inches, formerly at the breaker; five 36 feet by 30 inches at Old Forge shaft No. 2, and ten 36 feet by 30 inches at No. 13 shaft; the latter fifteen have not as yet been removed but are not in use at this date.

At Old Forge Shaft No. 1, one Babcock & Wilcox boiler of 130 horse power was also erected in 1896 and put in operation November 18, 1896, and is an addition to the boiler power at that place. The pressure carried is 110 pounds.

William Connell & Co.

A plane has been driven from the abandoned workings in the old tunnel in No. 5 vein to the present workings in No. 4 vein; length, 150 feet; sectional area, 84 feet; gradient, 33 1-3 degrees.

The Connell Coal Company.

"William A" Colliery. A plane has been driven having the following dimensions: Length, 230 feet; sectional area, 7 x 16 feet; gradient, 12 per cent.

An opening has also been made from the Marcy vein to the surface.

Lawrence Mine. A shaft for ventilation has been sunk from the upper to the lower drift workings; depth, 26 feet; sectional area, 8 x 8 feet.

Two planes have been driven, one 485 feet long; 7x21 feet sectional area; gradient, 10 per cent.; the other 1,600 feet long; 8x14 feet sectional area; gradient, 2 per cent to 5 per cent.

An additional plane is in course of construction in lower drift.

Jermyn & Co.

Jermyn No. 1 Shaft. A shaft has been sunk for hoisting coal: depth, 220 feet; sectional area, 11 x 26 feet.

West Ridge Coal Company.

The main hoisting shaft was completed to a depth of 556 feet; sectional area, 12 x 30 feet.

A second opening is being sunk from the Clark vein to the China vein; present depth, 80 feet; sectional area, 8 x 10 feet.

A new slope has also been completed in the No. 4 vein: length, 500 feet; sectional area, 6x15 feet; gradient, 4 per cent.

Spring Brook Coal Company, Limited.

A hoisting shaft to the top lift of Red Ash has been sunk: depth, 75 feet; 192 square feet sectional area.

Also a ventilating shaft: Depth, 75 feet; 100 square feet sectional area.

A haulage tunnel 205 feet long, 84 feet sectional area, from the top split of Red Ash to the bottom split of same, and a breaker of 600 tons per day capacity are the improvements reported by this company for the year 1896.

Remarks upon Fatal Accidents from October 29 to December 31, 1896.

During this period two persons lost their lives in the mines of this district, one by falling under a trip of loaded mine cars, the other by a fall of fire clay in face of chamber. The following is a description of these accidents:

On December 9th an accident occurred in the Continental mine, Delaware, Lackawanna and Western Railroad Company, which resulted in the instant death of a Welsh "runner" named David Phillips, 19 years of age.

He was running a trip of four loaded cars from the foot of No. 9 plane to the foot of a slope and was riding on the bumper between the first and second cars, when he fell, meeting instant death. General rule 47 of the Anthracite Mine Law of 1891 reads in part as follows: "Where cars are run on gravity roads by brakes or sprags, the runner shall ride only on the rear end of the last car, etc., etc." Had this important rule been observed, the accident would not have occurred.

On December 23 an accident occurred in the Tripp slope, Diamond mines, Delaware, Lackawanna and Western Railroad Company, which resulted in the instant death of a Welsh miner named Edward Lewis, 34 years of age.

In this mine the two benches of coal which make up the vein are separated by a layer of fire clay two feet six inches in thickness. The bottom bench, which is three feet six inches thick, is mined first, and in order to make height, the fire clay bench is taken down. Upon investigating this accident, I found that Edward Lewis had fired a blast in this fire clay which did not bring it down. The laborer and himself afterwards endeavored to pull it down with drills, and failing to do so the miner concluded it was safe to work under, but no sooner had he reached the "face," the fire clay fell, killing him instantly.

Table No. 1.—Showing Location, etc., of Collieries in the Second Anthracite District.

Name of Colliery.	Name of Operator.	Location—Lack'a County.	Name of Superintendent.	Postoffice Address.
Archbald shaft	Dela., Lacka. & Western R. R. Co.	Lackawanna township	W. R. Storrs, general coal agent	Scranton.
Bellvue shaft	Dela., Lacka. & Western R. R. Co.	Scranton city	W. H. Storrs, assistant coal agent	Scranton.
Bellvue slope	Dela., Lacka. & Western R. R. Co.	Scranton city	B. Hughes, mine superintendent	Scranton.
Brisbin shaft	Dela., Lacka. & Western R. R. Co.	Scranton city	Thos. H. Davis, assistant supt.	Scranton.
Cayuga shaft	Dela., Lacka. & Western R. R. Co.	Scranton city	Thos. W. Phillips, assistant supt.	Scranton.
Central shaft	Dela., Lacka. & Western R. R. Co.	Scranton city		
Sloan breaker	Dela., Lacka. & Western R. R. Co.	Scranton city		
Continental shaft	Dela., Lacka. & Western R. R. Co.	Lackawanna township		
Dodge shaft	Dela., Lacka. & Western R. R. Co.	Lackawanna township		
Drummond shaft	Dela., Lacka. & Western R. R. Co.	Scranton city		
Tripp shaft	Dela., Lacka. & Western R. R. Co.	Scranton city		
Tripp slope	Dela., Lacka. & Western R. R. Co.	Scranton city		
Tripp drift	Dela., Lacka. & Western R. R. Co.	Scranton city		
Hyde Park shaft	Dela., Lacka. & Western R. R. Co.	Scranton city		
Manville shaft	D. L. & W. R. R. Co. and D. & H. C. Co.	Scranton city		
Oxford shaft	Dela., Lacka. & Western R. R. Co.	Scranton city		
Holden shaft	Dela., Lacka. & Western R. R. Co.	Taylor borough		
Hampton shaft	Dela., Lacka. & Western R. R. Co.	Lackawanna township		
Pyne shaft and slope	Dela., Lacka. & Western R. R. Co.	Lackawanna township		
Taylor shaft	Dela., Lacka. & Western R. R. Co.	Taylor borough		
Taylor slope	Dela., Lacka. & Western R. R. Co.	Taylor borough		
Taylor drift	Austin Coal Company	Taylor borough		
Austin Tunnel	Dela., Lacka. & Western R. R. Co.	Old Forge	Chas. S. Collyer, superintendent	Old Forge P. O.
Dickson shaft	Delaware and Hudson Canal Company	Scranton city	C. C. Rose, superintendent	Scranton.
Von Storch shaft	Delaware and Hudson Canal Company	Scranton city	F. Ross, assistant superintendent	Scranton.
Von Storch slope	Lackawanna Iron and Steel Company	Scranton city		
Capouse shaft	Delaware and Hudson Canal Company	Scranton city	Wm. Penn Morgan, superintendent	Scranton.
Pine Brook shaft	Lackawanna Iron and Steel Company	Scranton city	Wm. Penn Morgan, superintendent	
Mount Pleasant shaft	William T. Smith	Scranton city	Thos. Sprague, superintendent	Scranton.
Green Ridge slope	O. S. Johnson	Dunmore borough	Ed J. Hughes, mine foreman	Dunmore
Shaft No. 5	Pennsylvania Coal Company	Dunmore borough		
Bunker Hill drift	Pennsylvania Coal Company	Dunmore borough		
Shaft No. 1, Old Forge	Pennsylvania Coal Company	Old Forge township		
Shaft No. 2, Old Forge	William Connell & Co.	Old Forge township		
Meadow Brook shaft	William Connell & Co.	Scranton city	Col. E. H. Ripple, gen. supt.	Scranton
Meadow Brook tunnel	William Connell & Co.	Scranton city	Col. E. H. Ripple, gen. supt.	Scranton
National shaft	William Connell & Co.	Scranton city	Col. E. H. Ripple, gen. supt.	Scranton
William A shaft	The Connell Coal Co.	Old Forge township	Samuel T. Jones, superintendent	Scranton
Lawrence shaft	The Connell Coal Co.	Ransom township	Samuel T. Jones, superintendent	Scranton
Lawrence drifts	The Connell Coal Co.	Ransom township	Samuel T. Jones, superintendent	Scranton
Greenwood No. 1 new shaft	Greenwood Coal Company, Limited	Greenwood	John Lovering, superintendent	Minooka
Greenwood No. 1 old shaft	Greenwood Coal Company, Limited	Greenwood	John Lovering, superintendent	Minooka
Greenwood drifts Nos. 3 & 12	Greenwood Coal Company, Limited	Greenwood	John Lovering, superintendent	Minooka
Greenwood No. 2 shaft	Greenwood Coal Company, Limited	Greenwood	John Lovering, superintendent	Minooka.

Table No. 1—Continued.

	Name of Operator.	Location—County.	Name of Superintendent.	Postoffice Address.
Greenwood drift,	Greenwood Coal Company, Limited,	Greenwood,	John Lovering, superintendent,	Minooka.
Jermyn No. 1 shaft,	Jermyn & Co.,	Rendham, Old Forge,	I. J. Jermyn, general supt.,	Rendham.
Jermyn No. 2 shaft,	Jermyn & Co.,	Old Forge,	Sam. Baker, asst. supt.,	Rendham.
Sibley shaft and slope,	Elliott McClure & Co.,	Old Forge township,	Jas. C. McClure, gen. supt.,	Scranton.
West Ridge shaft and slope,	West Ridge Coal Co.,	Scranton city,	E. A. Clark, superintendent,	Scranton.
Spencer's shaft,	A. D. & F. M. Spencer,	Dunmore,	A. D. & F. M. Spencer, supt.,	Scranton.
Nay Aug slope and drift,	Nay Aug Coal Co.,	Dunmore,		
Richmond shaft,	James McAnulty,	Scranton city,	W. H. Hiskins, mine foreman,	
Columbus breaker,	Columbus Colliery Co.,	Scranton city,		
Spring Brook colliery,	Spring Brook Coal Co., Limited,	Lackawanna township,	Chas. P. Ford,	Moosic.

TABLE No. 2. Gives the total number of tons of coal mined in each colliery, number of days worked number of employes, number of persons killed and injured, number of kegs of powder used, etc., in the Second Anthracite District for the year ending December 31, 1896.

Names of Collieries	Location	Total production in tons of coal.	Total shipment in tons of coal.	Number of days worked.	Number of persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.
Del., Lacka. & Western R. R. Co.											
Archbald shaft	Lackawanna Township	210,390.17	198,171.17	161.20	588	1	3	6,327	14	76	1
Bellevue shaft and slope	Scranton city	250,587.00	242,813.00	179.90	594	3	5	7,452	24	95	2
Bristol shaft	Scranton city	183,203.06	167,742.06	175.30	472	..	1	5,027	17	55	1
Cayuga shaft	Scranton city	222,448.15	198,647.09	175.40	527	1	2	5,547	24	63	1
Central and Sloan breaker	Scranton city								21	79	3
		252,030.05	239,935.05	175.80	573	3	9	5,888	18	1	.....
Continental shaft	Lackawanna township	178,736.16	170,675.16	176.10	496	3	4	4,732	15	62	1
Dodge shaft	Lackawanna township	177,148.01	161,982.01	179.20	432	....	3	6,066	23	78	1
Diamond breaker	Scranton city	272,579.11	244,448.01	181.40	644	1	7	8,295	35	84	4
Hyde Park shaft	Scranton city	147,172.00	138,885.00	165.90	452	1	8	6,452	12	67	
Marvine shaft			709,475.02								
	Scranton city	148,661.11	59,961.07	187.00	422	2	8	9,471	38	45	.....
Oxford shaft	Scranton city	296,444.08	148,199.08	180.20	416	..	3	4,855	19	30	.....
Holden shaft	Taylor borough	60,005.03	53,812.03	168.70	208	.....	..	2,145	12	23	.....
Hampden shaft	Lackawanna township	161,575.04	148,207.04	172.90	427	.....	9	5,242	16	62	.....
Pyne shaft and slope	Lackawanna township	236,198.02	224,266.17	177.50	500	.....	3	6,545	22	69	1
Taylor shaft, slope and drift	Taylor borough	153,597.03	141,672.03	148.40	453	.....	2	4,600	19	64	1
Total and averages		2,860,864.02	2,586,891.90	167.10	7,214	15	74	88,654	339	1,012	16
Austin tunnel	Old Forge	56,706.02	52,737.13	163.90	286	..	5	2,047	6	21	1

Table No. 2—Continued.

Names of Collieries.	Location.	Total production in tons of coal.	Total shipment in tons of coal.	Number of days worked	Number of persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.
Delaware and Hudson Canal Company.											
Dickson shaft,	Scranton city,	239,100.07	236,307.08	217.00	576	2	5	8,589	18	74	.....
Von Storch shaft and slope,	Scranton city,	227,545.10	221,873.15	221.25	644	4	5	7,717	29	79	.....
Total and averages,	.....	466,645.17	458,180.23	219.12	1,220	6	10	16,306	47	153	.....
Lackawanna Iron and Steel Company.											
Capouse shaft,	Scranton city,	237,304.00	228,984.00	198.60	617	3	13	9,581	3	.....	.....
Pine Brook shaft,	Scranton city,	179,132.06	156,543.16	176.70	572	2	5	11,759	5	71	.....
Total and averages,	.....	416,436.06	385,527.16	183.10	1,189	5	18	21,340	8	71	.....
Mount Pleasant shaft,	Scranton city,	190,012.00	156,849.00	194.70	509	2	4	8,058	15	45	2
Green Ridge slope,	Dunmore,	147,361.03	140,987.14	195.60	500	.....	5	8,791	21	55	1
Pennsylvania Coal Company.											
Shaft No. 5,	Dunmore,	107,199.00	104,137.00	144.25	351	2	.....	4,495	10	34	.....
Bunker Hill drift,	Dunmore,	10,415.00	10,128.00	31.00	138	.....	1	350	6	9	.....
Shaft No. 1,	Old Forge,	205,332.00	199,889.00	140.25	576	1	1	7,548	10	54	.....
Shaft No. 2,	Old Forge,										
Total and averages,	.....	322,946.00	314,154.00	142.25	1,065	3	2	12,393	26	97	.....

William Connell & Co.											
Meadow Brook shaft	Scranton city	142,749.00	119,149.00	169.00	461	1	2	6,655	28	73	1
Meadow Brook tunnel	Scranton city					1	2				
National shaft	Scranton city										
Total and averages		142,749.00	119,149.00	169.00	461	2	4	6,655	28	73	1
The Connell Coal Company.											
William A. shaft	Old Forge township	257,663.00	246,247.00	169.50	600	.....	4	7,585	18	32	.....
Lawrence shaft and drifts	Ransom township	136,334.00	132,334.00	178.10	322	.....	3	5,587	12	29	.....
Total and averages		393,997.00	378,581.00	174.80	922	.....	7	13,172	30	61	.....
Greenwood Coal Company, Limited.											
Greenwood No. 1	Greenwood	141,778.18	127,547.18	128.30	513	.....	6	7,272	16	78	1
Greenwood No. 2	Greenwood	60,226.10	56,226.10	123.00	275	1	6	3,142	9	41	.....
Total and averages		202,004.28	183,773.28	125.60	788	1	12	10,414	25	119	1
Jermyn & Co.											
Jermyn No. 1	Rendham	142,221.01	138,869.07	120.10	527	.....	8	6,338	20	52	1
Jermyn No. 2	Old Forge	154,495.09	154,495.09	116.80	494	2	6	5,496	15	43	.....
Total and averages		296,716.10	293,364.16	118.40	1,021	2	14	11,834	35	95	1
Sibley shaft and slope	Old Forge township	87,867.19	77,325.90	155.10	358	1	.....	4,276	13	42	.....
West Ridge shaft and slope	Scranton city	116,798.12	109,090.02	119.30	352	2	3	5,355	5	31	.....
Spencer's shaft	Dunmore	114,329.09	102,500.16	123.00	284	.....	1	4,600	11	32	.....
Nay Aug slope and drift	Dunmore	19,326.00	47,826.00	140.50	120	.....	2	1,718	2	14	.....
*Richmond shaft	Scranton	.....	.....	.....	4	.....	.....	.....	.....	24	.....
‖Columbus breaker	Scranton	24,912.00	14,878.00	.....	19	.....	.....	.....	.....	1	.....
*Spring Brook colliery		.....	.....	.....	47	.....	.....	.....	7	7	.....

*These mines have not been operated during the year 1896.
‖ Not in operation since March, 1896.

TABLE No. 3.—Showing the number of each class of employes at each colliery in the Second Anthracite District during the year 1896.

Names of Collieries.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							Grand total inside and outside.
	Inside foremen.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All other company men.	Superintendents, book-keepers and clerks.	Total outside.	
Delaware, Lackawanna and Western R. R. Co.															
Archbald shaft,	1	136	136	48	58	10	389	2	17	10	112	58	.....	199	588
Bellevue shaft and slope,	3	142	142	52	67	9	415	2	21	7	94	55	.....	179	594
Erisbin shaft,	1	114	118	37	48	13	331	1	9	9	69	53	.....	141	472
Cayuga shaft,	1	133	133	41	61	11	380	1	18	12	71	45	.....	147	527
Central shaft and Sloan breaker,	.....	.....	.....	10	1	.....	11	.....	.....	.....	.....	.....	.....	.....	.....
Continental shaft,	2	110	143	46	62	12	375	1	9	14	81	82	.....	187	573
Dodge shaft,	1	107	107	45	54	13	327	1	10	11	83	64	.....	169	496
Diamond mines,	3	100	104	39	42	7	294	1	12	11	65	49	.....	138	432
Hyde Park shaft,	3	147	199	51	56	11	467	1	23	11	62	80	.....	177	664
Manville shaft,	2	109	111	43	45	11	321	1	10	8	71	41	.....	131	452
Oxford shaft,	1	104	104	38	52	11	310	1	5	7	62	47	.....	122	432
Holden shaft,	1	92	96	35	34	19	277	1	17	7	68	46	.....	139	416
Hampton shaft,	1	49	51	20	11	1	133	1	8	4	38	24	.....	75	208
Pyne shaft and slope,	2	98	99	29	39	10	277	1	8	8	84	49	.....	150	427
Saylor shaft, drift and slope,	1	120	120	39	45	3	328	1	10	8	102	51	.....	172	500
	2	105	107	31	32	12	289	1	12	11	80	60	.....	164	453
Totals,	24	1,666	1,770	604	707	153	4,924	17	189	138	1,142	804	.....	2,290	7,214

Austin [illegible]	3	70	80	12	28	4	197	4	4	7	48	18	2	83	280
[illegible] and Hudson Canal Company.															
Jackson shaft	3	147	147	74	72	19	462	1	5	12	49	47	...	114	576
[illegible] shaft and [illegible]	1	149	149	85	104	16	504	1	10	15	46	66	2	140	644
Total,	4	296	296	159	176	35	966	2	15	27	95	113	2	254	1,220
Lackawanna Iron and Steel Company.															
Carbon shaft	2	152	154	54	67	27	456	1	9	7	118	24	2	161	617
[illegible] shaft	2	121	127	51	70	37	408	1	7	7	112	35	2	164	572
Total,	4	273	281	105	137	64	864	2	16	14	230	59	4	325	1,189
Mount Pleasant shaft	2	115	115	38	49	15	334	1	5	8	108	47	5	175	509
[illegible] Ridge [illegible]	1	129	129	30	64	15	368	1	5	9	56	41	...	112	500
Pennsylvania Coal Company.															
Shaft No. [illegible] Pittston	1	105	99	19	32	9	256	1	2	8	54	58	1	95	351
Bunker Hill [illegible]	1	44	44	2	9	2	102	1	0	2	20	12	1	36	138
Shaft No. [illegible] Old Forge	2	165	165	28	63	16	439	1	3	14	78	40	1	137	576
[illegible]															
Total,	4	314	299	49	104	27	797	3	5	24	162	71	3	268	1,065
William, [illegible] and Company.															
Meadow Brook shaft	1	62	45	18	22	6	154	1	6	14	98	49	2	170	462
Meadow Brook [illegible]	1	55	30	19	28	4	137								
[illegible]															
Total	2	117	75	37	50	10	291	1	6	14	98	49	2	170	461
The [illegible] Coal Company															
William A shaft	1	180	150	28	50	11	420	1	6	10	102	58	3	180	600
Lawrence [illegible] [illegible]	...	21	5	2	6	1	35								
Lawrence [illegible] [illegible]	...	39	8	3	6	1	57	1	4	7	70	33	...	115	322
[illegible]	1	40	38	11	22	3	115								
Total,	2	280	201	44	84	16	627	2	10	17	172	91	3	297	922
[illegible] Coal Company, Limited.															
[illegible]	2	[illegible]	150	27	47	23	374	1	7	10	58	74	3	143	518

Table No. 3.—Continued.

Names of Collieries.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							Grand total inside and outside.
	Inside foremen.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen	Slate pickers.	All other company men.	Superintendents, book keepers and clerks.	Total outside.	
Greenwood No. 2 shaft and drift, ...															
Total.	1	71	79	14	14	16	195	1	3	7	32	37	.....	80	275
	3	210	218	39	55	40	565	2	10	17	100	91	3	223	788
Jermyn and Company.															
Jermyn No. 1 shaft, ...	2	133	100	31	52	13	331	1	4	10	135	42	4	196	527
Jermyn No. 2 shaft, ...	1	145	115	30	60	8	359	1	4	6	84	36	4	135	494
Total, ...	3	278	215	61	112	21	690	2	8	16	219	78	8	331	1,021
Sibley shaft, ...	1	65	60	23	36	6	191	1	4	4	125	30	3	167	358
West Ridge shaft and slope, ...	1	79	84	35	50	14	263	1	5	7	48	27	1	89	352
Spencer's shaft, ...	2	70	70	16	34	8	200	2	6	6	27	40	3	84	284
Nay Aug slope and drift, ...	1	31	25	9	14	2	82	1	3	4	10	18	2	38	120

| | | |

TABLE No. 4.—List of Fatal Accidents that occurred in and about the mines of the Second Anthracite District for the year ending December 31, 1896.

Date of Accident.	Name of Person.	Occupation.	Age.	Widows.	Orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 6,	Wm. H. Bodine,	Miner.	32	1	....	Dickson shaft,	Lackawanna,	Struck on face by flying coal from blast; died one hour after.
16,	Patrick Holleran.	Foot tender.	40	1	2	Shaft No. 5, Dunmore.	Lackawanna,	Killed while attempting to board a loaded car in motion and fell down the shaft.
17,	Michael Coleman.	Laborer,	33	1	5	Manville shaft,	Lackawanna,	Killed by fall of rock
18,	Arthur Price,	Driver,	17	....	....	Mount Pleasant.	Lackawanna,	Seriously injured by car; died at 5 p. m., in Lackawanna Hospital.
21,	John Colchin,	Laborer,	50	....	....	Capouse mine,	Lackawanna,	Killed by fall of roof.
29,	Thomas James,	Door boy,	15	....	....	Archbald mine,	Lackawanna,	Kicked by a mule; died at midnight.
Feb. 5,	Nicholas Ladecka.	Laborer,	34	....	....	Capouse mine,	Lackawanna,	Instantly killed by a fall of rock.
24,	John Campbell,	Laborer,	34	....	....	Sloan mine,	Lackawanna,	Died from injuries received from fall of roof.
Mar. 12,	William Evans,	Laborer,	24	1	....	West Ridge slope,	Lackawanna,	Instantly killed by a "bell" falling on him from roof
24,	William Tindle,	Miner,	26	1	2	Old Forge No. 2,	Lackawanna,	Killed by fall of roof.
Apr. 14,	Richard Gaughan.	Miner,	31	1	....	Pine Brook mine,	Lackawanna,	These men were killed by a fall of roof when they returned to their place after a shot had been fired.
14,	John Gaughan,	Miner,	21	....	....	Pine Brook mine,	Lackawanna,	
May 23,	James Clark,	Pump man,	46	1	4	Von Storch slope,	Lackawanna,	Struck by a car while walking on slope, which was against the law and orders.
June 6,	James Hallemane.	Laborer,	18	....	....	Manville shaft,	Lackawanna,	Killed by falling from a hoisting carriage to bottom.
11,	Joseph Thomas,	Driver,	28	....	....	Jermyn No. 2,	Lackawanna,	Killed by being run over by cars in the mine.

	12	Patrick [illegible]	[illegible]	51		Continental,	Lackawanna,	Leg fractured by fall of roof. Died June 16th.
	22.	Matthew Moran,	Driver.	29		Capouse,	Lackawanna,	A car struck a head block, which flew across the road, striking Moran and killing him.
	27.	Christopher McFall	Mine foreman.	66	1 6	Shaft No. 5, Dunmore,	Lackawanna,	A loaded car tipped over on him, fracturing his skull; he died in two hours after.
	27.	George Shell,	Miner.	69	1	West Ridge slope,	Lackawanna,	Killed by premature explosion of blast.
July	4.	Henry Davis,	Timberer.	48		Von Storch slope,	Lackawanna,	Injured on July 1st, died July 4th from being struck by a car or rock.
Aug.	8	William Campbell,	Donkey man.	73	1	Von Storch,	Lackawanna,	Killed between cars while attempting to cross over them.
	10.	Cista Funance,	Miner.	20		Meadow Brook,	Lackawanna,	Killed by fall of rock.
	11.	Albert Pasco,	Laborer.	23		Bellevue shaft,	Lackawanna,	Instantly killed by fall of roof in chamber.
	18.	John Gerritz,	Miner	33	1	Cayuga shaft,	Lackawanna,	Killed by fall of rock while in the act of barring it down.
	27.	John Carpenter,	Miner	56		Sloan shaft,	Lackawanna,	Some rock fell from gob on him. He died while being taken home.
	30.	Stanislaw Dupowski,	Laborer	22		Bellevue slope,	Lackawanna,	Killed by fall of slate in face of chamber.
Sept.	7.	William Burke	Driver.	17		Dickson shaft,	Lackawanna,	Fatally injured by explosion of gas. Died September 11th.
	7.	John Burnschacks,	Miner.	23		Jermyn No. 2,	Lackawanna,	Killed by fall of "bell" rock.
	16	John Audzewise	Laborer.	28		Von Storch shaft,	Lackawanna,	Killed by rock and collar falling on him, which was caused by a car jumping the track.
	20	Nelson P. Andrews,	Miner.	32		Hyde Park shaft,	Lackawanna,	Fatally injured by fall of coal. Died in hospital September 23d.
	22.	William Sinkolski,	Miner.	24		Sibley shaft,	Lackawanna,	Killed by fall of roof.
	25.	James Jones,	Miner.	35		National shaft,	Lackawanna,	Killed by the premature explosion of blast.
Oct.	4	Mack Keehler,	Miner.	30	1	Greenwood No. 2,	Lackawanna,	Fatally injured on back by fall of rock. Died October 18th.
	15.	Michael Holsko,	Outside laborer	28		Bellevue (dump),	Lackawanna,	Fatally injured by being run over by a locomotive and four cars. He was riding on front car when the latch broke and the car tipped, throwing him in front.
	19.	Jos Visinski,	Laborer.	33	1 2	Continental,	Lackawanna,	Killed by fall of roof.
	20.	Thomas James	Driver	17		Mount Pleasant,	Lackawanna,	Killed almost instantly by falling under a car. He was riding on a bumper with his foot on the rail when he fell.
	27	Frank Opan	Laborer	25		Central,	Lackawanna,	Fatally injured at the foot of inside shaft by being struck by an empty car.
Dec.	9,	David Phillips	Runner.	19		Continental,	Lackawanna,	He was running a trip of four cars from the foot of a plane to the foot of a slope by gravity and was riding between the first and second car when he fell, meeting instant death.
	22	Edward Lewis	Miner.	34	1	Tripp slope (Dia.),	Lackawanna,	Killed by fall of the clay in face of chamber.

TABLE No. 5.—List of Non-Fatal Accidents that occurred in and about the Mines of the Second Anthracite District for the year ending December 31, 1896.

Date of accident.	Name of Person.	Occupation.	Age.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 4.	John Sheridan,	.....	15	Bellevue slope,	Lackawanna,	Thigh fractured; slid from roof to large car.
8.	Wm. I. Bowen,	Slate picker,	14	Capouse breaker,	Lackawanna,	Back and head slightly injured by fall of "blacking carriage.
8.	David Gould,	.....	43	Archbald mine,	Lackawanna,	Burned by powder in his chamber.
13.	Benjamin Havington,	Miner,	25	Manville mine,	Lackawanna,	Collar bone fractured by fall of roof.
15.	Henry Davis,	Miner,	52	Pine Brook mine,	Lackawanna,	Seriously injured by falling under car.
15.	William Brady,	Driver,	18	Green Ridge slope,	Lackawanna,	Forehead slightly injured by fall of rock.
22.	Edward R. Jones,	Miner,	23	Jermyn No. 2,	Lackawanna,	Leg and breast injured by being caught under "blacksmith" coal.
24.	W. H. Maish,	Outside laborer,	29	Jermyn No. 2,	Lackawanna,	Hand injured by wheel while spragging car.
25.	James Fenny,	Driver,	21	Green Ridge slope,	Lackawanna,	Right side of face and shoulder injured by fall of roof.
27.	Thomas Collins,	Miner,	33	Archbald mines,	Lackawanna,	Injured by a blasting needle running in the flesh from hip to shoulder blade.
Feb. 1.	Zigman Shiplock,	Laborer,	18	Austin tunnel,	Lackawanna,	Injured about the body by fall of coal.
1.	Anthony Higgins,	Laborer,	24	Sloan mine,	Lackawanna,	Back broken by fall of rock.
7.	John Lopenski,	Miner,	33	Greenwood No. 12 drift,	Lackawanna,	Slightly burned by an explosion of gas.
14.	Michael Healy,	Miner,	29	Von Storch "14 foot,"	Lackawanna,	
14.	John Mullen,	Laborer,	24	Slope,	Lackawanna,	
14.	Martin J. Loftus,	Laborer,	19	Slope,	Lackawanna,	
14.	Jas. McGovern,	Runner,	18	Slope,	Lackawanna,	
15.	Paul Snyder,	Miner,	45	Capouse mine,	Lackawanna,	Hip dislocated by fall of coal.
17.	Owen Thomas,	Miner,	37	Tripp shaft (Dia.),	Lackawanna,	Hip and back injured by fall of rock.
18.	Patrick Houston,	Laborer,	27	Pine Brook mine,	Lackawanna,	Foot injured by fall of roof.
24.	John Combs,	Miner,	50	Pine mine,	Lackawanna,	Slightly injured by fall of roof.
28.	Peter Kuhlberg,	Miner,	64	Hyde Park mine,	Lackawanna,	Side and shoulder injured by a runaway car.
Mar. 6.	Patrick Kearns,	Miner,	54	Greenwood No. 1,	Lackawanna,	Slightly injured by premature explosion of a blast.
6.	John Crovites,	Laborer,	34	Greenwood No. 1,	Lackawanna,	Slightly injured by premature explosion of a blast.
6.	Paul Iundock,	Miner,	32	Jermyn No. 2,	Lackawanna,	These men were burned by an explosion of gas; they went into their working place without orders or permission.
6.	Mich. Bigger,	Laborer,	28	Jermyn No. 2,	Lackawanna,	

	7.	Peter Westilefski	Laborer	27	Greenwood No. 1,	Lackawanna,	Thigh and leg fractured by fall of rock.
	7.	Jas. Isaac,	Laborer,	21	Cayuga mine,	Lackawanna,	Head and hips injured by fall of roof.
	10.	Jas. Bawn,	Driver,	18	Manville mine,	Lackawanna,	Foot badly bruised by car running over it.
	12.	Peter Matshits,	Laborer,	26	Jermyn No. 2,	Lackawanna,	Injured by fall of top coal.
	13.	John Tracey,	Laborer,	22	Manville mine,	Lackawanna,	Severe wounds on scalp caused by being caught between car and breaker setutes.
	16.	Patrick McHale,	Headman,	40	Continental mine,	Lackawanna,	Arm fractured by being struck by fans on shaft head.
	19.	John Connors,	Driver,	16	Oxford mine,	Lackawanna,	Leg fractured by falling under a car.
	21.	Charles Mackes,	Company hand	30	Bunker Hill,	Lackawanna,	Seriously injured by being caught between car and prop.
	25.	Thos. Dougherty,	Miner,	45	Cayuga Mine,	Lackawanna,	Injured on side and back by fall of rock.
	25.	John Ratchford,	Driver,	17	Manville mine,	Lackawanna,	Forehead and upper lip cut by a kick from a mule.
	26.	David I. Thomas,	Laborer,	35	Capouse mine,	Lackawanna,	Upper jaw and nose fractured by fall of roof.
	31.	John Benholzer,	Miner,	26	Austin,	Lackawanna	Left hand severed at wrist and left ankle fractured. He slipped and slid down a chamber 60 feet; pitch 45 degrees.
April	20.	Andrew Robertson	Miner,	56	Tripp shaft (Dia.),	Lackawanna,	Left leg fractured and shoulder bruised by fall of bony coal.
	24.	Joseph Carroll,	Runner,	17	Von Storch,	Lackawanna,	Right leg fractured by being caught between cars.
	27.	George Thielfall,	Miner,	29	Capouse,	Lackawanna,	Arm fractured by fall of rock
	28.	William Matheus	Driver,	19	Capouse,	Lackawanna,	Head and body bruised, a car jumped the track and rolled on him.
	30.	William Burke,	Miner,	66	Cayuga,	Lackawanna,	Back and arms bruised by fall of rock.
May	2	Michael Murphy,	Driver,	17	National shaft,	Lackawanna,	Seriously injured; a mule kicked him on the forehead.
	5.	Patrick Hughes,	Driver,	18	Hyde Park,	Lackawanna,	Jaw slightly injured by a kick from a mule
	8.	Barney Noskunkunis,	Laborer,	19	Hyde Park,	Lackawanna,	Leg fractured by a fall of bony coal.
	9.	Dennis Evers,	Miner,	48	Austin tunnel,	Lackawanna,	Both arms fractured, the left in two places.
	14.	Evan Thomas,	Miner,	33	Hampton mine,	Lackawanna,	Collar bone fractured by fall of roof.
	15.	Michael Lyden,	Miner,		National mine,	Lackawanna,	Slightly injured by fall of top coal.
	16.	Jno. Coala,	Miner,	35	Green Ridge slope,	Lackawanna,	Slightly injured by explosion of a blast.
	18.	Thos. Carey,	Miner,	38	Sloan and Central,	Lackawanna,	Injured by fall of top coal.
	18.	Henry Shuesler,	Miner,	32	Hampton,	Lackawanna,	Injured by falling roof.
	20.	Thos. Monohan	Driver,	19	Cayuga,	Lackawanna,	Slightly injured by being caught between car and rib.
	21.	Stephen Davies	Runner,	22	Jermyn No. 1,	Lackawanna,	Leg fractured by car jumping track outside accident).
	23.	John Phillips,	Laborer,	35	Hyde Park,	Lackawanna,	Slightly injured between car and rib.
	27.	John Carroll,	Miner,	35	Hyde Park,	Lackawanna,	Back slightly injured by fall of top coal.
June	2.	Ross Ritz,	Mason,	25	Lawrence drift,	Lackawanna,	Leg cut off by being caught between top of cars and head block.
	4.	Baltz Gutia,	Miner,	57	Hyde Park,	Lackawanna,	Leg slightly injured by fall of roof.
	5.	James Costello,	Laborer,	26	Pine Brook,	Lackawanna,	Slightly injured by fall of roof.
	5.	Sam. Powell,	Runner,	21	Green Ridge slope,	Lackawanna,	Hand injured between top of car and roof
	6.	James McAndrew	Driver boy,	15	Archbald,	Lackawanna,	Leg fractured, he was riding a mule when a car struck both.
	8.	John Dugas	Miner,	44	Jermyn No. 2,	Lackawanna,	Severely hurt about hips and back by fall of [illegible]
	8.	Thos. Elias	Driver,	18	Continental,	Lackawanna,	Squeezed between cars and [illegible]

Table No. 5.—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Name of Colliery.	Location-County.	Nature and Cause of Accident.
June 9,	Michael Kelley,	Laborer,	25	Capouse,	Lackawanna...	Leg dislocated, also cut on head and hand.
10,	Thomas Langan,	Mine Carpenter,	28	Dickson,	Lackawanna...	Leg fractured in two places, struck by wire rope on slope.
11,	Michael Pensick,	Laborer,	25	Mount Pleasant,	Lackawanna...	Slightly bruised about shoulders and side.
12,	Frank Venco,	Laborer,	32	Tripp slope (Dia.),	Lackawanna...	Back injured by fall of rock.
12,	Michael Sobeskie,	Laborer,	23	Sloan shaft,	Lackawanna...	Head and face slightly injured by fall of roof.
15,	Michael Smith,	Driver,	16	Mount Pleasant,	Lackawanna...	Hips bruised between car and trace.
17,	Michael Namish,	Miner,	40	Cayuga,	Lackawanna...	Back slightly injured by fall of rock.
18,	Nicholas Glassner,	Miner,	60	Tripp shaft (Dia),	Lackawanna...	Finger cut off while making a cap piece.
25,	Joseph Palla	Miner,	40	Green Ridge slope,	Lackawanna...	Slightly injured by fall of roof.
July 2,	Buck Nacheesi,	Miner,	35	Lawrence drift,	Lackawanna...	Both legs fractured by fall of roof.
6,	Valentine Capp,	Laborer,	33	Nay Aug,	Lackawanna...	Injured by fall of rock.
9,	Edward Hanington,	Miner,	31	Hyde Park,	Lackawanna...	Slightly injured by forcing cartridge into hole, which exploded.
9,	Ignace Olesewski,	Laborer,	24	Hyde Park,	Lackawanna...	Slightly injured by forcing cartridge into hole, which exploded.
10,	David Owens,	Miner,	32	Jermyn No. 1,	Lackawanna...	Lost one eye by premature explosion of blast.
13,	Marshal Anderson,	Driver,	17	Hampton,	Lackawanna...	Slightly injured between car and prop.
22,	Michael Judge,	Miner,	46	Tripp shaft (Dia.),	Lackawanna...	Leg fractured by car jumping the track and striking him.
23,	Patrick Gavin,	Driver,	21	Tripp shaft (Dia.),	Lackawanna...	Fingers cut off between stretcher and draw-bar.
27,	William White,	Laborer,	23	Cayuga,	Lackawanna...	Head slightly injured by fall of coal.
Aug. 1,	David Phillips,	Door boy,	15	Tripp slope (Dia.),	Lackawanna...	Hip slightly injured between car and door.
10,	Michael Gibbons,	Driver,	16	Capouse mine,	Lackawanna...	Arm fractured between car and door.
10,	Joseph Jolozna,	Miner,	29	Dodge mine,	Lackawanna...	Body severely injured by fall of coal.
18,	Robert McAndrews,	Driver,	17	Sloan and Central,	Lackawanna...	Slightly injured by falling from bumper of car.
20,	Jas. McNeish,	Miner,	45	Dickson,	Lackawanna...	Injured on back by flying coal from blast.
24,	Thomas O'Hara,	Doorboy,	21	Greenwood No. 2,	Lackawanna...	One finger cut off between top of car and roof.
24,	Thomas Townsend,	Driver,	19	Pyne,	Lackawanna...	Back and shoulder bruised between car and door-post.
24,	Sebastian Pfeiffer,	Driver,	17	Brisbin,	Lackawanna...	Leg fractured by being struck by a car.
29,	Powell Slavick,	Laborer,	30	Taylor mine,	Lackawanna...	Leg fractured and body bruised by fall of roof.
Sept. 1,	Matthew Ferguson,	Driver,	17	Manville mine,	Lackawanna...	Slightly scratched from knee to foot.

	1.	Wm. Rogallis,	Miner,	40	William A. mine,	Lackawanna,	Leg fractured by fall of rock.
	1.	Michael Stucknick,	Driver,	18	Austin drift,	Lackawanna,	Artery severed by being caught between bumpers of cars.
	2.	Charles Williams,	Brakeman,	20	Austin drift,	Lackawanna,	Large bone of leg fractured by jumping off car.
	3.	Antom Amoinge,	Laborer,	27	West Ridge slope,	Lackawanna,	Back and hips squeezed by car jumping the track.
	3.	Martin Monaghan,	Miner,	49	Sloan mine,	Lackawanna,	Back bruised and face cut by fall of loose coal.
	4.	William Edwards,	Driver's helper,	15	Capouse mine,	Lackawanna,	Ankle sprained and face bruised by falling down shaft 37 feet.
	10.	Jonathan Thomas,	Laborer,	30	Bellevue mine,	Lackawanna,	Injured on back by fall of rock.
	10.	John Ruddy,	Miner,	50	Cayuga mine,	Lackawanna,	Seriously burned by careless handling of powder.
	10.	Benjamin Morgan,	Driver,	16	Mount Pleasant,	Lackawanna,	Scalp wound inflicted by a mule kicking him.
	12.	Henry Jones,	Slatepicker,	15	Jermyn No. 1 breaker,	Lackawanna,	Leg fractured in conveyors.
	15.	Darby Cauley,	Miner,	56	Meadow Brook,	Lackawanna,	Ribs fractured by being squeezed between car and prop.
	16.	John Regan,	Driver's helper,	15	Capouse mine,	Lackawanna,	Injured by fall of rock which fell on gob and slid down on him, slightly injuring him.
	17.	Roger Jones,	Driver boss,	35	Pine Brook mine,	Lackawanna,	Bone of leg fractured by empty car dropping on it.
	24.	Edward Brown,	Driver,	35	Greenwood No. 3 drift,	Lackawanna,	Arm fractured; he fell off a mule while riding to the barn.
	27.	George Williams,	Headman,	47	Jermyn No. 1,	Lackawanna,	Shoulder dislocated; he was walking on rail of track and fell.
	26.	Patrick Loftus,	Miner,	30	Manville mine,	Lackawanna,	Arm dislocated and hips slightly injured by fall of rock.
	28.	Samuel Sarnocky,	Laborer,	24	Mount Pleasant,	Lackawanna,	Seriously injured; a car tumbled on him owing to mule taking the wrong track.
	28.	James James,	Miner,	36	Oxford mine,	Lackawanna,	Wrist fractured by flying coal from explosion.
Oct.	3.	Joseph Casey,	Driver,	19	Capouse mine,	Lackawanna,	Wrist dislocated by a car which he was trying to sprag, jumping the track.
	9.	Patrick Quinn,	Miner,	35	Manville mine,	Lackawanna,	Small bone of leg fractured by flying coal from a blast.
	14.	John Forbes,	Headman,	27	Hampton mine,	Lackawanna,	Head injured between cars.
	16.	John McGovern,	Miner,	36	Hampton mine,	Lackawanna,	Injured by fall of roof.
	16.	Michael Heber,	Miner,	48	Hampton mine,	Lackawanna,	Injured by fall of roof.
	16.	Martin Toeye,	Miner,	57	Continental mine,	Lackawanna,	Head and legs injured by a piece of top coal falling on him.
	16.	Thomas Shepherd,	Footman,	39	Oxford mine,	Lackawanna,	Seriously injured, breast bone and ribs fractured by a trip of cars which he was attempting to sprag.
	16.	Michael Saiks,	Laborer,	40	West Ridge slope,	Lackawanna,	Ankle sprained while in the act of putting car on track.
	17.	John Koupickavish,	Laborer,	26	West Ridge slope,	Lackawanna,	Head seriously injured by flying coal from blast.
	21.	Martin Healy,	Miner,	46	Sloan,	Lackawanna,	Left side and hip injured by fall of coal.
	22.	Edward Grouske,	Driver,	17	Greenwood culm bank,	Lackawanna,	Leg fractured by cut-ov culm bin.
	24.	Andrew Murphy,	Driver,	17	Cayuga,	Lackawanna,	Slightly injured by being struck by a trip of cars.
	26.	Floyd Kline,	Driver,	16	Pine Brook,	Lackawanna,	Kicked by mule injured on head.
	29.	Michael Walchan,	Laborer,	40	Central,	Lackawanna,	Arm fractured by fall of top coal.
	30.	Thomas Gilbride,	Runner,	18	Cayuga,	Lackawanna,	Slightly injured by car jumping track.
	31.	John Davies,	Laborer,	54	Hampton,	Lackawanna,	Injured by falling coal.
Nov.	2	John McGinty,	Laborer,	27	Continental,	Lackawanna,	Slightly injured by [illegible] he was barring down [illegible] when the [illegible] fell on him.

Table No. 5.—Continued

Date of accident	Name of Person.	Occupation.	Age.	Name of Colliery.	Location-County.	Nature and Cause of Accident.
Nov. 2,	Benjamin Walburn,	Miner,	35	Dodge,	Lackawanna,	Injured by premature explosion of a blast which he could not account for.
5,	John Snyder,	Miner,	65	Capouse,	Lackawanna,	Seriously injured by fall of top coal; small bone of leg and one rib were fractured.
6,	Gottfield Moetville,	Miner,	41	Capouse,	Lackawanna,	Injured by fall of rock from rib; he was in the act of pulling it when the rock fell, fracturing small bone of leg.
13,	Stewart Galloway,	Miner,	31	Dodge,	Lackawanna,	He was visiting the next chamber to his own when a piece of roof rock fell, fracturing his leg.
13,	Adam Peters,	Company man,	42	Pyne,	Lackawanna,	He was driving when he was caught between car and prop, fracturing his collar bone.
14,	Frank R. Domas,	Miner,	30	Meadow Brook,	Lackawanna,	Struck by a car jumping the track near face of his chamber while he was pulling a sprag.
14,	John Quilababa,	Miner,	24	Spencer,	Lackawanna,	Leg fractured by jumping off loaded car on slope where he had been riding, against orders.
16,	Thomas Campbell,	Miner,	56	Capouse,	Lackawanna,	He had tried to pull top bench and failing to get it down, he went under it to work when it fell on him. Fractured leg, cut on head and internal injuries.
16,	Wm. Toole,	Runner,	21	Greenwood,	Lackawanna,	Hand caught while spragging car, cutting off one finger.
17,	Samuel Grubluski,	Miner,	40	Lawrence,	Lackawanna,	He was preparing to prop a small piece of rock when it fell, slightly injuring him.
17,	Turetti Balisti,	Miner,	35	William A. mine,	Lackawanna,	Burned by careless use of powder; they placed a squib into a blasting barrel and ignited it when it shot through and ignited an uncovered powder keg, causing an explosion.
17,	Tumas Straford,	Laborer,	28	William A. mine,	Lackawanna,	
19,	John McDonnell,	Driver,	15	Nay Aug,	Lackawanna,	He was riding between cars when he sustained a squeeze, slightly injuring him.
21,	John Crabb,	Miner,	36	Dickson,	Lackawanna,	Burned by ignited blower. It seems probable that these men used naked lights where they were ordered to use locked ones.
21,	John Solsby,	Laborer,	24	Dickson,	Lackawanna,	

	24.	John Carowsky.	Laborer.	24	Hampton.	Lackawanna.	Squeezed between car and prop while doing the driver's work; slightly injured.
	27.	Henry Druskosk.	Outside runner.	30	Jermyn No. 1.	Lackawanna.	Fell in front of trip of cars outside, receiving scalp wound; his toes were also slightly injured.
	28.	Michael King.	Driver.	21	Greenwood No. 2.	Lackawanna.	Was riding on the front bumper of a car coming down a slight grade when the car jumped the track, injuring his foot.
	30.	John Weir.	Miner.	38	Manville.	Lackawanna.	Toes slightly injured by fall of roof.
Dec.	2.	Martin Farrell.	Headman.	20	Greenwood No. 2.	Lackawanna.	Caught under mine car; while trying to kick its door open his toe was injured.
	3.	Felix Olcosk.	Laborer.	46	Greenwood No. 1.	Lackawanna.	After the miner had fired a blast, the laborer went to the face first and was caught under fall of roof, breaking his collar-bone and bruising his back and hips.
	5.	Joseph Wakop.	Laborer.	22	Sloan.	Lackawanna.	Slightly injured by fall of "bony."
	8.	Michael J. McHugh.	Driver.	17	Sloan.	Lackawanna.	Squeezed between empty car and door post while boarding a trip of empty cars, and slightly injured.
	9.	August Speyler.	Driver.	20	Bellevue shaft.	Lackawanna.	The team which he was driving ran away and in trying to catch and stop them he became entangled in the harness and fell under the car, receiving severe bruises of the legs.
	11.	Martin Siron.	Laborer.	28	Hampton.	Lackawanna.	Injured by piece of top coal falling on him.
	12.	Frank Rose.	Miner.	40	Jermyn No. 1.	Lackawanna.	Injured by premature explosion of blast.
	14.	Joseph Bacocks.	Laborer.	38	Taylor.	Lackawanna.	Injured about head and shoulders while trying to board a moving car.
	14.	William Francis.	Helper.	19	Bellevue shaft.	Lackawanna.	Hand injured while riding on loaded cars on slope.
	14.	Thos. Fitzpatrick.	Miner.	56	Bellevue shaft.	Lackawanna.	Head and leg injured by premature explosion of blast.
	22.	Nic. Cardomonte.	Miner.	40	William A. shaft.	Lackawanna.	Hip dislocated and body bruised by fall of checker coal.
	29.	Antoni Gorashefski.	Miner.	28	Greenwood No. 3 Drift.	Lackawanna.	Injured slightly by a piece of rock which he was pulling with a drill.
	29.	Max Peel.	Runner.	23	Dickson shaft.	Lackawanna.	Caught by moving cars while hitching a team of mules to them; arm fractured in two places.
	30.	Charles Gilbert.	Miner.	41	Old Forge No. 1.	Lackawanna.	Fractured leg; he was working out some coal when soapstone fell, causing the injury.
	31.	Francis Casselli.	Miner.	33	Jermyn No. 3.	Lackawanna.	Slightly injured by premature explosion of blast.
	31.	Rocci Parisi.	Laborer.	26	Jermyn No. 1.	Lackawanna.	Injured on head and leg by premature explosion of blast.

THIRD ANTHRACITE DISTRICT.

(LUZERNE AND SULLIVAN COUNTIES.)

Pittston, Pa., March 15, 1897.

Hon. James W. Latta, Secretary of Internal Affairs, Harrisburg, Pa.:

Sir: I have the honor herewith of presenting my annual report as Inspector of Mines for the Third Anthracite district for the year 1896. The total production of coal in this district was 5,714,929 tons, a decrease of 499,905 tons from that of 1895.

The number of fatal accidents was 108, being 39 more than for the year previous, which left 56 wives widows and 160 children fatherless. The number of non-fatal accidents was 209. The quantity of coal produced per life lost was 52,916 tons. The report contains the usual tables, with a description of the "Twin Shaft" disaster, whereby 58 persons lost their lives by the caving in of the roof of the mine on June 28, 1896, and also a description of the general improvements in and about the collieries during the year.

Very respectfully yours,

H. McDONALD,
Inspector of Mines.

Tons of Coal Mined by the Various Companies During the Year 1896.

Pennsylvania Coal Company,	1,220,271
Lehigh Valley Coal Company,	949,865
Butler Mine Company, Limited,	234,023
Newton Coal Mining Company,	191,601
Old Forge Coal Mining Company,	212,351
Delaware, Lackawanna and Western R. R. Co.,	222,429
Forty Fort Coal Company,	326,549
Delaware and Hudson Canal Company,	208,378
Thomas Waddell Estate,	78,377
John C. Haddock,	191,506
Clear Spring Coal Company,	188,630
Hillside Coal and Iron Company,	111,126
Florence Coal Company, Limited,	91,082
W. G. Payne & Company,	118,545
Keystone Coal Company,	110,567
Avoca Coal Company,	61,751

Langcliffe Coal Company, Limited,	83,432
Stevens Coal Company,	167,116
Laflin Coal Company,	54,981
Robertson & Law,	59,452
Babylon Coal Company,	188,374
Mount Lookout Coal Company,	109,639
Raub Coal Company, Limited,	53,061
Algonquin Coal Company,	119,088
Laurel Run Coal Company,	81,097
Westminster Coal Company,	25,375
William B. Miner,	15,492
Crescent Coal Company,	14,092
Wyoming Coal and Land Company,	41,921
State Line and Sullivan Railroad Company,	151,758
Total for all companies,	5,714,929

Number of fatal accidents and tons of coal produced per life lost.

Name of Operators.	Number of lives lost.	Tons of coal mined per life lost.
Pennsylvania Coal Company,	1	1,220,271
Lehigh Valley Coal Company,	10	94,986
Butler Mine Company, Limited,	5	46,805
Newton Coal Mining Company,	62	3,092
Old Forge Coal Mining Company,		
Delaware, Lackawanna and Western Railroad Company,	1	222,429
Forty Fort Coal Company,	9	36,283
Delaware and Hudson Canal Company,		
Thomas Waddell Estate,		
John C. Haddock,	4	47,856
Clear Spring Coal Company,		
Hillside Coal and Iron Company,		
Florence Coal Company, Limited,		
W. G. Payne & Co.,		
Keystone Coal Company,	1	110,567
Avoca Coal Company,		
Langcliffe Coal Company, Limited,	2	41,716
Stevens Coal Company,	1	167,116
Laflin Coal Company,	4	13,745
Robertson & Law,		
Babylon Coal Company,	3	62,791
Mount Lookout Coal Company,	2	54,819
Raub Coal Company, Limited,	1	53,061
Algonquin Coal Company,		
Laurel Run Coal Company,		
Westminster Coal Company,		
William B. Miner,		
Crescent Coal Company,		
Wyoming Coal and Land Company,	2	20,960
State Line and Sullivan Railroad Company,		
Total,	108	
Ton average,		52,916

Number of Non-Fatal Accidents and tons of coal mined per person seriously injured.

Name of Operators.	Number of persons injured.	Tons of coal mined to person injured.
Pennsylvania Coal Company,	18	67,793
Lehigh Valley Coal Company,	44	21,388
Butler Mine Company, Limited,	11	21,275
Newton Coal Mining Company,	9	21,289
Old Forge Coal Mining Company,	5	42,459
Delaware, Lackawanna and Western Railroad Company	31	7,175
Forty Fort Coal Company,	6	54,425
Delaware and Hudson Canal Company,		
Thomas Waddell Estate,	2	39,188
John C. Haddock,	1	95,753
Clear Spring Coal Company,	9	20,959
Hillside Coal and Iron Company,	3	38,042
Florence Coal Company, Limited,		
W. G. Payne & Co.,	8	18,568
Keystone Coal Company,	1	110,567
Avoca Coal Company,		
Larkcliffe Coal Company, Limited,	3	27,811
Stevens Coal Company,	10	16,111
Lafin Coal Company,	2	27,490
Robertson & Law,	1	59,452
Babylon Coal Company,	15	12,558
Mount Lookout Coal Company,	10	10,964
Raub Coal Company, Limited,	1	13,265
Algonquin Coal Company,	2	59,544
Laurel Run Coal Company,	4	20,274
Westminster Coal Company,		
William B. Miner Company,	3	5,164
Crescent Coal Company,		
Wyoming Coal and Land Company,	3	13,973
State Line and Sullivan Railroad Company,	3	50,586
Total,	209	
Average,		27,377

Classification of Fatal and Non-Fatal Accidents.

Cause of Accidents	Killed or fatally injured.	Severely injured.
By explosions of gas,	2	27
By falls of roof and coal,	89	8
By falling down shafts,	2	
By explosions of powder and blasts,	3	23
Crushed and run over by mine cars,	4	36
By miscellaneous causes underground,	3	24
By miscellaneous causes on the surface,	5	14
Total,	108	209

Occupations of persons killed and injured.

	Killed.	Injured.
Miners,	35	85
Miners' laborers,	40	58
Drivers and runners,	10	28
Door boys and slate pickers,	2	12
Miscellaneous underground,	17	14
Miscellaneous on surface,	4	12
Total,	108	209

Nationality of persons killed or injured.

	Irish.	Welsh.	American.	English.	Scotch.	German.	Swedes.	Hungarian.	Polish.	Italians.	Total.
Killed or fatally injured,	17	1	38	.....	.....	2	.....	14	34	2	108
Injured,	30	18	36	25	2	9	.....	23	61	5	209
Total,	47	19	74	25	2	11	.....	37	95	7	317

Number of Each Class of Employes in and about the Mines of the Third Anthracite District for 1896.

Inside.

Inside foreman and fire bosses,	85
Miners,	4,411
Miners' laborers,	3,708
All other company men,	1,344
Drivers and runners,	1,678
Door boys and helpers,	449
Total inside,	11,675

Outside.

Outside foremen,	48
Blacksmiths and carpenters,	250
Engineers and firemen,	455

Slate pickers,	3,206
All other company men,	1,840
Superintendents and clerks,	103
Total outside,	5,902

Summary.

Tons of coal produced,	5,714,929
Tons of coal shipped,	5,331,946
Tons of coal sold at mines,	106,843
Tons of coal used at mines for steam,	276,140
Number of fatal accidents,	108
Number of non-fatal accidents,	209
Number of wives left widows,	56
Number of children left fatherless,	160
Number of persons employed,	17,577
Number of kegs of powder used,	198,283
Number of steam boilers in use,	701
Number of horses and mules,	2,270
Number of mine locomotives,	27
Tons of coal produced per fatal accident,	52,916
Tons of coal produced per non-fatal accident,	27,377
Tons of coal produced per each employe,	325
Average number of days worked,	164
Number of tons of coal mined per keg of powder,	28 4-5
Number of tons of coal mined per day,	34,847

Of the eighty-nine persons killed in 1896 by falls of roof and coal, fifty-eight were killed by the cave in of the "Twin Shaft" workings on the morning of June 28 while timbering to stop a crush which had threatened to close the main gangway at the bottom of Number 3 slope for a few days previous. (See a description of this accident in another part of the report.)

Examination of Applicants for Mine Foreman and Assistant Mine Foreman's Certificates.

The annual examination of applicants for certificates of qualification for mine foreman and assistant mine foreman was held at the Butler Hill school building, Pittston, on May 1 and 2, 1896.

The board of examiners was H. McDonald, Inspector of Mines, S. B. Bennett, Superintendent; John Campbell and Howell Williams, miners.

Twelve applicants appeared for examination for mine foreman certificates, of whom the following nine passed satisfactory examinations and were recommended to have certificates.

John D. Davis, James D. Campbell, Patrick H. O'Brien, of Avoca.

John E. Morris, Richard T. Jones, Daniel R. Williams, of Pittston.

William Hilburt Plains, John Conlon Hudson and John McKechnie, of Luzerne.

Six of the applicants for assistant foreman certificates were recommended as having passed a satisfactory examination and received their certificates.

The year 1896 was a remarkable one for this district on account of the deplorable calamity which occurred in the "Twin Shaft," Pittston, on the morning of June 28, 1896, whereby 58 persons lost their lives by a sudden caving in of the roof in the bottom or "Red Ash" seam.

There were fifty other persons who lost their lives in and about the collieries of this district during the year, as will be seen by the tables of this report, making a total of one hundred and eight killed. Mine caves or falls are of a general or local character, and there are few underground workings of any extent but have given the mine bosses a great deal of anxiety in this respect, and more especially in the local cases, as they are most frequent and are frequently attended with fatal results, especially where the overlying strata is composed of a wet fire clay or is of a friable nature; such roof gives little or no warning before the fall takes place, which may be from four to twenty feet in thickness only. But as to the former, a general crushing or squeeze having set in, the indications are so prominent from noises made by rending of the pillars and breaking of timber, with local falls taking place in the affected district, that ample warning is given, if it is heeded, for all to escape to a place of safety, and it is the height of indiscretion for any person to linger in such a locality while human life is in jeopardy as it is impossible for any person to tell the time when the general collapse may take place.

Fire in the Butler Shaft.

On the morning of October 5, 1896, a squeeze was detected in the abandoned workings of the underground slope in the Red Ash vein in the Butler shaft operated by the Butler Mine Company, Limited, and located in Pittston township.

The squeeze was discovered by Daniel Brady, the mine foreman, who ordered all of the workmen from the shaft out until a thorough examination of the slope could be made and the extent of the af-

fected workings be determined. I was notified in the afternoon by Superintendent S. B. Bennett, of the Colliery, who accompanied me to the shaft. We went down the shaft with the mine boss, Mr. Brady, and going down the slope to the first lift found the pillars crushing and the props and timber breaking so that it was not safe for any person to be down the shaft when the fall would take place. Therefore, I left orders that no one should be allowed to go down the shaft until the collapse had taken place and the roof settled. In the afternoon about five o'clock the mine boss and fire boss went down the shaft to make another examination and went a short distance from the foot of the shaft to listen for any working of the roof in that direction, and while passing through a door on the airway the fire boss, who had an open light with him at the time, came in contact with a body of explosive gas, igniting it, causing an explosion which ignited the feeders in the abandoned workings of the slope where the squeeze was in progress and also setting fire to the coal.

Fortunately neither of the men was burned, as the air current on the airway was very strong, keeping the flames from reaching them. The action of the mine boss and fire boss in using an open light under the above conditions cannot be too severely condemned, yet how frequently such carelessness is shown even by those who should know better. In going down the shaft that night after twelve o'clock with the fire boss of the "Schooley shaft," I arrived at the conclusion that the safest and best way was to flood the slope workings immediately with water, as there was no knowing how soon the fire would get above the shaft level. I therefore informed Mr. Bennett of my decision and requested him to keep all persons from going down the shaft until the danger of an explosion should be past. The next day they had two streams of water pouring down the shaft and it took about one week to flood the slope workings to the shaft level. On the 15th Mr. Moister and Mr. Owens, superintendents from the Lehigh Valley Coal Company, with Mr. Bennett and myself, went down the shaft and made a thorough examination and came to the conclusion that the fire was extinguished and the cave had been confined to the slope workings. As there were no indications of any squeeze on the shaft level the mine was placed in order again for resuming work.

The Burning of the Mount Lookout Breaker.

On January 8, 1896, the large and commodious breaker of the Mount Lookout Coal Company, located at Wyoming, was discovered to be on fire and was totally consumed and all the machinery destroyed or damaged.

The supposed cause of the fire was a hot journal. The company proceeded without delay to clear up the debris and ordered the timber for rebuilding, as soon as the alterations in the plans could be made. As the breaker is on a different plan from the old one, it took considerable time to alter the plans to fit the old site with the new structure.

The new breaker is what is called a "wet and dry" breaker; that is, it has one dry side where all of the coal coarser than stove coal is prepared without using any water. To the wet side is carried all of the various sizes which are separated by screens and run into jigs for the purpose of picking out the slate. The wet side consists of six shaking screens, six by nine feet, and twelve jigs which are known as the Lehigh Valley pattern. Three of these jigs clean the stove coal, four the "chestnut," three for "pea," and two for "buckwheat," and they are doing the work in a very satisfactory manner. The coal that goes to the dry side is slated by the "Zigler Automatic Separators." Of this kind of slate picker there are 16 in the breaker, ranging from five feet to eight feet wide. The pickings from these pickers in the main dry screen room are taken up in an elevator and re-picked. In this way the slate in the coal is reduced to about four to five per cent. These pickers also separate the bone from the slate. This bone runs to an extra set of rolls which grinds it to a smaller size. These smaller sizes which are made from the bone, are elevated to the shakers on the wet side and sized, and then run to the jigs, which remove the slate. The largest size they make from these rolls is chestnut coal. All the doubtful pickings from the jigs run to a separate set of small rolls which grind to pea and buckwheat and it is re-elevated to the wet side and reslated. The jigs make a very perfect separation of the sizes of pea and buckwheat. In all its departments this is one of the most complete breakers for cleaning and preparing coal in this part of the Anthracite coal field. It was started on August 24, 1896, to prepare coal for shipment.

COLLIERY IMPROVEMENTS FOR 1896.

Improvements by Pennsylvania Coal Company.

On June 4, 1896, the Schooley Colliery passed out of the hands of the Butler Mine Company, Limited, and into the possession of the

Pennsylvania Coal Company, which company began immediately to make important repairs in and about the colliery. The old cribbing in the hoisting shaft was taken out and replaced by new. A general overhauling of the breaker and machinery was gone into and they were placed in first class condition. This company started the breaker to prepare coal on September 10, 1896. Four new Babcock and Wilcox water tube boilers of 150 H. P. each, in two nests or batteries, were installed and put in operation on August 28, and they supply steam to all the engines and pumps about the colliery, thus supplanting 21 cylindrical boilers formerly used at this colliery.

A new 20-foot exhaust fan was installed on the air shaft of the above colliery which gives very satisfactory results and supplies 72,000 cubic feet of air per minute under a speed of 37 revolutions.

Twenty-four new Babcock and Wilcox tubular boilers have been installed by the above company supplanting 71 old cylindrical boilers at their various collieries in this district during the past year.

Improvements by the Mount Lookout Coal Company.

During the time this company was rebuilding the new breaker they sunk No. 2 shaft from the "Pittston" through the "Marcy and Ross" to the "Red Ash" vein, a distance of 327 feet. They also sunk No. 1 shaft down through the Marcy and nearly to the Ross vein, a depth of 200 feet. There have been no developments made in these veins, but they expect to make some in the early part of the summer.

Before this can be done it will be necessary to place a pair of large hoisting engines on the head of No. 2 shaft and to have a new head-frame built, as the present tower for sinking is not strong enough to hoist coal. They expect to finish sinking No. 1 shaft as soon as the weather moderates, so that there will be no trouble with ice in the shaft. This work will have to be done at night as the colliery will be operated as usual during the day.

Improvements by the Lehigh Valley Coal Company.

A rock tunnel has been driven in the Prospect Colliery of this company from the "Bowkly" to the "Hillman vein," a distance of 150 feet, which is to be used for transporting coal. At the Maltby Colliery a new fan has been erected which is 25 feet in diameter; engine, 18x36 inch, directly connected.

Improvements by the Forty Fort Coal Company.

Two new exhaust fans, 15 and 20 feet in diameter respectively were installed at the "Harry E" Colliery, replacing the old ones, which were inadequate to supply the ventilation required. The new fans exhaust 219,040 cubic feet of air per minute.

Improvements by the Hillside Coal and Iron Company.

A new air shaft has been sunk to a depth of 70 feet sectional area 10x10 feet, in the Consolidated Colliery, to be used for ventilation.

Improvement by the Westminster Coal Company.

A new fan 12 feet in diameter has been erected at this colliery to ventilate the underground slope workings. Engine 14x13-inch with a working speed of 60 revolutions.

Improvements by the Raub Coal Company, Limited.

A tunnel has been driven in the out crop of the Red Ash vein, a distance of 300 feet at the Louise colliery of this company, the coal from which is run down a gravity plane to the breaker. A new fan 12 feet in diameter has been installed on this tunnel which exhausts 60,000 cubic feet of air per minute to ventilate the workings.

Improvements by Robertson and Law.

A new slope has been sunk at the Katy Did Colliery a distance of 450 feet from the surface; area, 7x8 feet, with a gradient of 18 degrees.

A tunnel has been driven from the surface to the "Brown" seam, a distance of 100 feet; area, 10x10 feet, which is used for transporting coal.

Improvements by the Algonquin Coal Company.

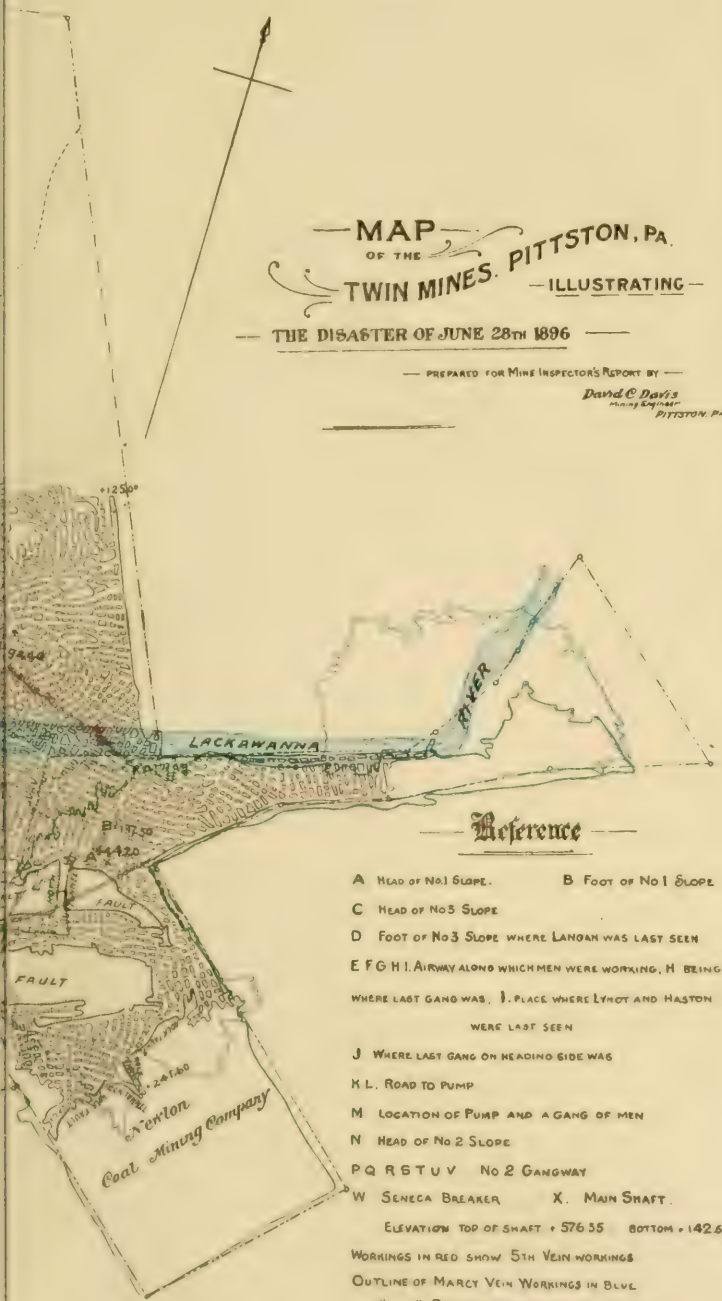
On the Pine Ridge shaft of this company a new underground slope has been driven from the "Kidney" to the "Hillman vein," a distance of 632 feet, area, 7x20 feet. Three new gravity planes were made, varying in length from 380 to 460 feet. A tunnel has been driven from the Hillman to the Rock vein, a distance of 63 1-2 feet; area, 7x12 feet.

Bank Farm
APPROXIMATE OUTCROP
SUSQUEHANNA
Scovells
Island
1123.3
GOAL MINED
GOAL MINED
GOAL MINED
GOAL MINED
PILLAR
CLEAR SPRING WORKINGS
RIVER
1869
Lehigh Valley Rail Road

MAP
OF THE
TWIN MINES. PITTSTON, PA.
ILLUSTRATING
THE DISASTER OF JUNE 28TH 1896

PREPARED FOR MINE INSPECTOR'S REPORT BY

David C. Davis
Mining Engineer
PITTSTON, PA



Reference

A HEAD OF NO.1 SLOPE. B FOOT OF NO 1 SLOPE

C HEAD OF NO 3 SLOPE

D FOOT OF NO 3 SLOPE WHERE LANGAN WAS LAST SEEN

E F G H I. AIRWAY ALONG WHICH MEN WERE WORKING, H BEING WHERE LAST GANG WAS. I. PLACE WHERE LYNOT AND HASTON WERE LAST SEEN

J WHERE LAST GANG ON HEADING SIDE WAS

K L. ROAD TO PUMP

M LOCATION OF PUMP AND A GANG OF MEN

N HEAD OF NO 2 SLOPE

P Q R S T U V NO 2 GANGWAY

W SENECA BREAKER X. MAIN SHAFT.

ELEVATION TOP OF SHAFT + 576.55 BOTTOM + 142.65

WORKINGS IN RED SHOW 5TH VEIN WORKINGS

OUTLINE OF MARCY VEIN WORKINGS IN BLUE

" " PITTSTON VEIN WORKINGS IN GREEN

Z POINT WHERE CARS WERE ON SLOPE

Y POINT WHERE FISSURE WAS STRUCK

THE TWIN SHAFT DISASTER.

About three o'clock on the morning of June 28, 1896, a dreadful disaster occurred in the workings of the "Twin shaft," located in Upper Pittston, and operated by the Newton Coal Mining Company. A general caving-in of the overlying strata took place, which caused the death of fifty-eight persons who were at work in the mine at the time. No other disaster in the Anthracite coal field, since the accident in the Avondale mine in 1869, has resulted in so great a loss of life as this.

In 1887 the Twin shaft was sunk from the Marcy seam to the Red Ash, the latter being a total distance from the surface of four hundred and thirty-four feet. When the hoisting shaft was approaching the Red Ash seam, an anticlinal was encountered, one side of the shaft passing through the same. (See map.) The headings were opened eastward and driven to the boundary line between them and the Phoenix mine workings. At about one hundred and fifty feet from the shaft the head of No. 1 slope was located, the total length of the slope being two hundred feet. At the head of this slope was placed a pair of small engines that hauled the coal from the foot of No. 1 slope to the shaft level. The distance from the foot of No. 1 slope to the head of No. 3 slope is 300 feet. No. 3 slope was driven down on what is called the "Bank Farm" property, owned by the Lehigh Valley Coal Company and leased to the Newton Coal Mining Company. The slope was driven a distance of one thousand feet to the basin. (See C on map.) The continuation of the slope was driven up the opposite pitch a distance of twelve hundred feet. At J on the map, the fifth vein or top split of the Red Ash vein was opened, the thickness of rock between the two veins being eleven feet, and the thickness of coal in the upper split being about four and one half feet. About ten acres of this vein or split had been worked, which workings are shown on the map in red. The vein being low, it was necessary for the miners to take up a part of the rock on the bottom to make room for the height of the cars. It was frequently found, in doing this, that the blasts would weaken the rock so much that it would break down into the chamber beneath. The rock overhanging the fifth seam was of such a hard character that the miners could not drill it with their tools. Hence it was that the bottom was taken up instead.

In February, 1896, a fissure was struck in the roof, which gave off considerable water and soft coal, which opening was six inches wide. On account of striking this fissure, mining in that locality was stopped and a bore hole was put down from the surface to test the

thickness of the rock. The bore hole showed one hundred and forty-six feet of sand and two hundred and fifty-seven feet of rock, making the total depth from the surface of the sixth seam four hundred and three feet. The bore hole showing ample covering, the work of mining in the vicinity of the fissure was resumed. At my visit on March 26th, I went around the faces of the workings with Mine Boss Lynott and Fire Boss McCormack. I examined the fissure and saw some water coming down from it, but not sufficient to create any anxiety or apprehension of danger. I visited it again on April 15, and went through the workings of the fifth and sixth seams. I did not see or hear any unusual disturbance of the overlying strata or the pillars. Everything was quiet. I talked with Mr. Lynott and Mr. McCormack in regard to the bad roof in some of the chambers of the sixth vein, but they did not mention anything to me about a squeeze in the mine, or of any indications of one.

On Sunday morning, June 28, 1896, at about four o'clock, I was notified that an explosion had occurred in the Twin Shaft. I immediately proceeded to the shaft and went down. I was surprised to find that a large cave-in had occurred, instead of an explosion, and that a large gang of men had been at work all night timbering to stop a squeeze, and that while doing so they had been entombed. Upon arriving at the foot of the shaft, I secured John McCormack, a brother of Fire Boss McCormack. We started down No. 2 slope, in the direction of the men, but were driven back by reason of the caving in of the roof. We then tried to go down No. 3 slope, but failed to get any farther than where the cars were standing on the slope, on account of falling roof. We next tried the barrier pillar, inside of No. 3 slope, but came in contact with a large body of explosive gas and were driven back. Returning to the foot of the shaft, I realized that the return air-bridge to the fan would have to be attended to, or it would be broken down and we should be driven from the shaft.

Getting the men organized with competent leaders, the work of standing props and building "cog" pillars was started, the men advancing as rapidly as possible, only to be driven back again and again. By perseverance and the use of all the precaution possible, the roof was in a measure secured about the foot of the shaft. And let me say here, that a more courageous set of men than those who volunteered that morning to work for the rescue of their fellow workmen it has not been my lot to meet. It would be impossible for me to give an adequate idea of the danger which attended the work. The pillars were crushing within fifty feet of the bottom of the shaft. In half an hour after "cog" pillars were built, it was impossible to get near them, owing to the crushing in of the roof all around them.

However, perseverance and pluck accomplished much even under such dangerous conditions. It would not be compatible for me to give credit to one workman more than another. All who took part in the work of staying the crush and opening the slope in the effort to recover the bodies of the entombed men were heroes and proved the heroic material of which underground workers are composed.

On the afternoon of the accident, when all hope of rescuing the entombed men from the Twin Shaft, even if they were alive, was abandoned, it was ordered that a bore hole should be drilled through the barrier pillar between the Clear Spring and Twin workings, to determine, if possible, the condition of the atmosphere inside of the fall. After two failures, a hole was drilled successfully through the pillar. (See map for location of hole.) The thickness of the barrier pillar, as shown on the map, was ninety feet, and the drill reaching the twin workings at a distance of ninety feet, the correctness of the survey is proven. The bore hole was drilled in the return airway of the Clear Spring Colliery. There was a current of sixty thousand cubic feet of air per minute returning to the fan at the point in question, and by means of brattices, this was directed on the mouth of the hole. The gas was found coming from the Twin workings under such a pressure that it could be detected by the safety lamp at a distance of ten feet from the mouth of the hole.

After a careful consideration of the situation, it was decided that the only feasible way to reach the bodies was to proceed down No. 3 slope, it being by this time apparent to those in charge that all of the men who had been at work in No. 3 slope at the time of the accident had been crushed to death by the cave-in. Accordingly, on July 6th, the work of opening a passage through the fallen rock in the slope was commenced. The undertaking was fraught with the greatest danger, and it was necessary to forbid the use of explosives on account of the surrounding atmosphere being filled with a mixture of explosive gas. The fallen rock was broken by means of hammers and wedges then loaded upon trucks and taken along the road at the head of the slope to be used as packing for the support of the pillars. Work in the slope was pushed vigorously day and night until July 29, the opening having been driven a distance of 553 feet from the head of the slope. The workmen then refused to continue work, as their danger was continually increasing. The timbers in the slope were constantly settling, and there was great danger that the rock above the timbers might give way, crush the timbers and close the opening thus making it impossible for the rescuers to escape. The officials of the Newton Coal Mining Company therefore deemed it advisable to ask all of the Mine Inspectors in the Anthracite Coal

region, and all of the superintendents of the neighboring coal companies to meet in Pittston on July 24th, 1896, and confer in regard to the advisability of continuing the work in No. 3 slope.

The following gentlemen responded to the call:

I. A. Stearns, general manager of the Pennsylvania Railroad Collieries; W. A. Lathrop general superintendent of the Lehigh Valley Coal Company; Mine Inspectors Stein, Brennan, Davis, McDonald and Roderick; J. L. Cake, general manager of the Clear Spring Coal Company; James B. Davies, superintendent of the Dodson and Black Diamond Collieries; E. H. Lawall, superintendent of the Lehigh and Wilkes-Barre Coal Company: W. J. Richards, mining engineer of the Lehigh and Wilkes-Barre Coal Company; George T. Morgan, general superintendent of the Susquehanna Coal Company; C. D. Simpson, of Simpson & Watkins; Andrew Bryden, consulting engineer, Pennsylvania Coal Company; Isaac R. Moister, division superintendent, Lehigh Valley Coal Company; S. B. Bennett, general superintendent, Butler Mine Company; Alexander Bryden, superintendent, Pennsylvania Coal Company; W. D. Owens, district superintendent, Lehigh Valley Coal Company; W. G. Thomas, superintendent, Laflin Coal Company; Henry T. McMillan, foreman, Pennsylvania Coal Company; Colonel Brown, division superintendent, Lehigh Valley Coal Company; David W. Evans, superintendent, Stevens Coal Company; Geo. O. Thomas, foreman, Clear Spring Coal Company; E. D. Jenkins, general manager, Stevens Coal Company; James Young, assistant superintendent, Pennsylvania Coal Company.

The conclusion reached at the conference was as follows:

"After a thorough examination of the mines and maps of the property mined from the Twin Shaft, the unanimous expression of opinion by the above mentioned gentleman was that they were surprised at the progress which had been made, taking into account the condition of the mines, the continuance of the squeeze, the presence of an enormous quantity of gas, and the fact that no explosives could be used in prosecuting the work. No suggestions were made that any better method of working could have been adopted. Their judgment was that everything possible had been done, and is being done, to reach the bodies of the entombed men.

"The officials of the Newton Coal Mining Company stated that they were desirous of receiving from these gentlemen any suggestions concerning the matter, and expressed a willingness to expend any amount of money that might be necessary to recover the bodies. Deep regret was expressed by all present at the apparent impossibility of ever finding the bodies.

"The question of driving from the Clear Spring workings through the pillar of coal between their mines and the Twin Shaft workings

was taken up and fully discussed; and it was decided that it was not only impracticable, but useless, and the indications all showed that the squeeze commenced in that locality, or near the Susquehanna river, and the gas which necessarily accumulated in the Twin Shaft workings near the Clear Spring line would make it impossible for the entombed men to retreat in that direction, even had the fall not extended that far.

"It was also shown that the point where the work of rescue commenced in the slope, was nearly sixteen hundred feet by actual measurement, in a straight line, to where the entombed men are supposed to be, than if an opening had been made from the Clear Spring mines at the point where the bore hole was put through; and that the facilities for prosecuting the work rapidly were much better at the No. 3 slope than from the Clear Spring mines. The indications as shown in the mines and on the surface demonstrated beyond a question that the fall was general over the entire territory between the No. 3 slope and the Clear Spring colliery."

On July 27th, the officials of the Newton Coal Mining Company sent to each of the gentlemen participating in the above mentioned conference the following letter:

Dear Sir: Inasmuch as you have made a careful examination of the workings of the Twin Shaft, as per maps of the Newton Coal Mining Company and the Lehigh Valley Coal Company, as well as having visited the mine since the late accident, we would be pleased in view of your long experience in mining, if you would answer the following questions:

First. Were the mining operations, as far as you can determine from a careful examination of our maps, conducted with due regard for the safety of the mine and the men employed?

Second. From what you have been able to learn from your visit to the mine, from maps, and from the known thickness of the overlying strata as taken from the shaft and bore holes, as per section shown, do you think it possible for the most competent to have foreseen any danger from a sudden cave such as you are satisfied must have occurred?

Third. Has the Newton Coal Mining Company in your opinion, through its surviving officers, used all possible diligence in its efforts to rescue the imprisoned men; and is it your opinion that these efforts have been made at such points as would be considered most practicable and advantageous for an early rescue?

Fourth. From what you know of the present condition of the mine as to water rising in the lower workings, and the immense body of

gas in the mine, which cannot be removed during the progress of the search, do you not consider that a continuance of the work can only go on with risk to the lives of the men thus employed?

Respectfully yours,

JNO. B. LAW,
General Manager.

As the result of the responses received to these letters, the officials of the Newton Coal Mining Company decided to abandon as useless the effort to recover the bodies of the entombed men.

On July 1st, 1896, Honorable Daniel H. Hastings, Governor of the State of Pennsylvania, appointed William Stein, Edward Roderick and Edward Brennan, Inspectors of Mines in the Anthracite Coal Field, as a commission to meet in Pittston on as early a day as possible, to investigate into the cause of the disaster in Twin Shaft on the morning of June 28th, 1896, and report the result to him without delay.

The commission met in Pittston on July 9th, 1896, its session being with open doors. Any person who knew anything concerning the workings of the mine or the cause of the disaster was courteously requested to come forward and testify.

The report of the commission was sent to the Governor and published. I shall not, therefore, include in this report any of the testimony taken by the commission.

I must say that in all my experience with underground caves, I have never failed before to know of any crush or squeeze that did not give ample warning, which, if heeded, would enable all to escape before the general collapse took place. In this case, however, it appears from the testimony of some of the witnesses—men who came out of the mine a short time before the cave and said that they would not have been afraid to go to sleep at the foot of No. 3 slope then, without fear of the roof coming down—that they did not hear any pillars crushing, any unusual sounds coming from the roof, or any other indications of a cave while they were at the foot of No. 3 slope. This is the sworn testimony of John Riker, who failed to reach the top of the slope before the cave took place and who saw Superintendent Langan at the foot of the slope not ten minutes before the cave. My opinion is that Superintendent Langan and Mine Boss Lynott were deceived in the location of the crush or squeeze, which, I believe, was taking place along the faces of the chambers in proximity to the fissure and about twelve hundred feet from where the men were working at the pump. It is my opinion that if, when the body of gas was discovered at nine o'clock on Saturday evening, an examination had been made around the face of the workings, it would have been found that a general crushing of the pillars was going on and unmistakable sign that a cave was about to take place.

I have no doubt they thought the squeeze was only local in the vicinity of the pump, which was located in the sixth vein, and that there was no particular danger to them even if a cave should occur from the breaking down of the divided rock between the veins, so that very little attention was given to the squeeze up the pitch from where they were. There, however, the disintegration of the pillars was going on rapidly until a sufficient area was so robbed of its support as to cause a sudden thrust of the over lying strata down upon the pillars in the basin; these failed to stand the extra weight thus thrown upon them, and from all the indications they gave way, instantly entombing the men.

TABLE No. 1.—Showing location, etc., of collieries in the Third Anthracite Mine District.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Postoffice Address.
Clear Spring shaft,	Clear Spring Coal Co.,	Luzerne,	J. L. Cake,	Pittston.
Consolidated shaft and slope,	Hillside Coal and Iron Co.,	Luzerne,	W. A. May	Scranton.
Elmwood shafts Nos. 1 and 2,	Florence Coal Co.,	Luzerne,	Chas. P. Ford,	Scranton.
East Boston shaft,	W. G. Payne & Co.,	Luzerne,	E. F. Payne,	Kingston.
Ridgewood shaft and slope,	Keystone Coal Co.,	Luzerne,	John T. Jetter,	Wilkes-Barre.
Katydid slope,	Robertson & Law,	Luzerne,	John M. Robertson,	Moosic.
Stevens shaft and slope,	Stevens Coal Co.,	Luzerne,	David Evans,	Pittston.
Laflin shaft,	Laflin Coal Co.,	Luzerne,	W. G. Thomas,	Pittston.
Langcliffe shaft and tunnel,	Langcliffe Coal Co.,	Luzerne,	R. G. Brooks,	Scranton.
Avoca shaft,	Avoca Coal Co.,	Luzerne,	W. H. Hollister,	Avoca.
Pine Ridge shaft,	Algonquin Coal Co.,	Luzerne,	George T. Nealley,	Wilkes-Barre.
Laurel Run slope,	Laurel Run Coal Co.,	Luzerne,	George T. Nealley,	Wilkes-Barre.
Louise drifts,	Raub Coal Co.,	Luzerne,	C. R. Marcy,	Luzerne.
Bernice drifts,	State Line and Sullivan Railroad Co.,	Bernice, Sullivan Co.,	J. O. Blight,	Towanda.
Westminster drifts,	Westminster Coal Co.,	Luzerne,	J. H. S. Lynch,	Scranton.
Crescent drifts,	Crescent Coal Co.,	Luzerne,	G. W. Milnes,	Scranton.
Miners drifts,	Wm. B. Miner,	Luzerne,	Wm. B. Miner,	Miners Mills.
Hunt tunnel,	Wyoming Coal and Land Co.,	Luzerne,	J. N. Rice,	Scranton.
Prospect shaft,	Lehigh Valley Coal Co.,	Luzerne,	W. A. Lathrop,	Wilkes-Barre.
Oakwood shaft,	Lehigh Valley Coal Co.,	Luzerne,	W. A. Lathrop,	Wilkes-Barre.
Midvale slope,	Lehigh Valley Coal Co.,	Luzerne,	W. A. Lathrop,	Wilkes-Barre.
Wyoming shaft,	Lehigh Valley Coal Co.,	Luzerne,	W. A. Lathrop,	Wilkes-Barre.
Henry shaft and slope,	Lehigh Valley Coal Co.,	Luzerne,	W. A. Lathrop,	Wilkes-Barre.
Exeter shaft,	Lehigh Valley Coal Co.,	Luzerne,	W. A. Lathrop,	Wilkes-Barre.
Heidelberg shaft,	Lehigh Valley Coal Co.,	Luzerne,	W. A. Lathrop,	Wilkes-Barre.
Heidelberg slope,	Lehigh Valley Coal Co.,	Luzerne,	W. A. Lathrop,	Wilkes-Barre.
Maltby shaft,	Lehigh Valley Coal Co.,	Luzerne,	W. A. Lathrop,	Wilkes-Barre.
Delaware shaft,	Delaware and Hudson Canal Co.,	Luzerne,	A. H. Vandling,	Scranton.
Pettebone shaft,	Del., Lacka. & Western R. R. Co.,	Luzerne,	W. R. Storrs,	Scranton.
Hallstead shaft,	Del., Lacka. & Western R. R. Co.,	Luzerne,	W. R. Storrs,	Scranton.
Twin shaft,	Newton Coal Co.,	Luzerne,	John B. Law,	Pittston.
Ravine shaft,	Newton Coal Co.,	Luzerne,	John B. Law,	Pittston.
Columbia shaft,	Old Forge Coal Mining Co.,	Luzerne,	John B. Law,	Pittston.
Phoenix shaft,	Old Forge Coal Mining Co.,	Luzerne,	John B. Law,	Pittston.
Butler shaft,	Butler Mine Co., Limited,	Luzerne,	S. B. Bennett,	Pittston.
Fernwood shaft,	Butler Mine Co., Limited,	Luzerne,	S. B. Bennett,	Pittston.
Chapman shaft,	Butler Mine Co., Limited,	Luzerne,	S. B. Bennett,	Pittston.
Forty Fort shaft,	Forty Fort Coal Co.,	Luzerne,	J. L. Crawford,	Scranton.
Harry E. shaft,	Forty Fort Coal Co.,	Luzerne,	J. L. Crawford,	Scranton.
Babylon shaft,	Babylon Coal Co.,	Luzerne,	J. L. Crawford,	Scranton.
Mount Lookout shaft,	Mount Lookout Coal Co.,	Luzerne,	J. L. Crawford,	Scranton.

Mill Hollow shaft	Thos. Waddell Estate	Luzerne	George Waddell		Wilkes-Barre.
Black Diamond shaft	John C. Haddock	Luzerne	James B. Davis		Plymouth
Barnum shaft No. 1	Pennsylvania Coal Co.	Luzerne	George B. Smith, general superintendent; Alex Bryden, assistant general superintendent		Dunmore.
Barnum shaft No. 2	Pennsylvania Coal Co.	Luzerne			Dunmore.
Barnum shaft No. 3	Pennsylvania Coal Co.	Luzerne			Dunmore.
Laws shaft	Pennsylvania Coal Co.	Luzerne			Dunmore.
No. 18 shaft	Pennsylvania Coal Co.	Luzerne	do.	do.	Dunmore.
No. 9 shaft	Pennsylvania Coal Co.	Luzerne	do.	do.	Dunmore.
Nos. 10 and 10 Jr. shaft	Pennsylvania Coal Co.	Luzerne	do.	do.	Dunmore.
Nos. 1 and 5 shaft	Pennsylvania Coal Co.	Luzerne	do.	do.	Dunmore.
No. 4 shaft	Pennsylvania Coal Co.	Luzerne	do.	do.	Dunmore.
No. 4 shaft	Pennsylvania Coal Co.	Luzerne	do.	do.	Dunmore.
No. 7 shaft	Pennsylvania Coal Co.	Luzerne	do.	do.	Dunmore.
No. 7 shaft	Pennsylvania Coal Co.	Luzerne	do.	do.	Dunmore.
No. 8 shaft	Pennsylvania Coal Co.	Luzerne	do.	do.	Dunmore.
No. 11 shaft	Pennsylvania Coal Co.	Luzerne	do.	do.	Dunmore.
No. 14 shafts and tunnels	Pennsylvania Coal Co.	Luzerne	do.	do.	Dunmore.
Hoyle shaft	Pennsylvania Coal Co.	Luzerne	do.	do.	Dunmore.
Schooley shaft	Pennsylvania Coal Co.	Luzerne	do.	do.	Dunmore.

TABLE No. 2.—Gives the total number of tons of coal mined in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder used, etc., in the Third Anthracite Mining District, for the year ending December 31, 1896.

Names of Collieries.	Location.	Total production in tons of coal.	Tons of coal consumed at mines.	Tons of coal sold at mines.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.
Pennsylvania Coal Company.													
Barnum 3 shafts,	Marcy township,	232,608	7,541	.....	225,067	140.75	593	.....	2	7,428	24	56	1
Laws and No. 13 shafts,	Pittston township,	171,401	7,933	.....	163,468	142.00	447	.....	3	3,796	27	49	1
Nos. 9, 10 and 10 Jr., shafts,	Hughestown,	170,351	9,098	.....	161,253	139.50	571	.....	1	5,245	6	67	.....
Nos. 1 and 8 shafts,	Hughestown,	110,953	3,361	.....	107,592	139.75	340	.....	1	2,770	3	36	.....
Nos. 7 and 4 and Hoyt shafts,	Jenkins township,	207,063	11,998	.....	195,065	135.50	707	1	4	7,749	39	58	.....
Nos. 5, 6 and 11 shafts,	Jenkins township,	127,528	4,916	.....	122,612	144.00	448	.....	3	3,943	20	65	.....
No. 14 shaft and tunnels,	Jenkins township,	180,117	11,720	.....	168,397	142.00	540	.....	2	5,264	26	67	1
Schooley shaft,	Exeter,	20,250	3,596	.....	16,654	35.50	316	.....	1	1,011	4	27	.....
Total,	.....	1,220,271	60,163	.....	1,160,108	*140.50	3,962	1	18	37,206	149	425	3
Lehigh Valley Coal Company.													
Prospect, Oakwood and Midvale shaft and slope,	Plains township,	196,160	Culm.	1,048	195,112	171.10	741	3	9	4,257	40	81	3
Wyoming and Henry shafts,	Plains township,	185,700	Culm.	4,856	180,844	177.35	565	2	12	4,900	43	90	1
Maltby shaft,	Maltby,	213,422	Culm.	2,774	210,648	153.80	569	1	12	6,652	32	59	.....
Exeter shaft,	Exeter,	202,365	10,577	7,723	184,065	145.35	513	4	11	8,242	6	64	1
Heidelberg slope,	Pittston township,	77,355	6,684	339	70,332	156.50	268	.....	.....	2,577	9	33	.....
Heidelberg shaft,	Pittston township,	74,863	11,382	714	62,767	139.10	321	.....	.....	3,327	6	30	.....
Total,	.....	949,865	28,643	17,454	903,768	*157.20	2,977	10	44	29,055	136	357	5

Butler Mine Company, Limited													
Butler and Chapman shafts	Pittston township	116,508	5,985	1,184	110,339	174.30	5	1	1	1,500	6	8	2
Fergwood shaft	Pittston township	91,732	4,555	856	86,332	185.10	82			1,000	12	24	.....
Schooley shaft	Exeter	25,383	2,000	922	22,449	.....		1	1	900			.....
Total	....	234,623	12,540	2,962	218,521	*180.40	907	7	11	11,500	27	62	2
Delaware, Lacka. and Western R. R. Co													
Hallstead shaft	Duryea	117,189	18,000	5,001	92,188	155.10	574	..	7	1,914	2	32	..
Pettebone shaft	Kingston township	107,240	6,000	3,108	97,832	136.70	410	1	24	1,500	21	32	..
Total		222,429	24,000	8,109	190,020	*145.90	764	1	31	3,714	44	104	..
Forty Fort Coal Company													
Forty Fort shaft	Forty Fort	25,506	Culm.	.....	25,506	25.50	82	1	1	700	18	27	1
Stacy E Shaft	Forty Fort	301,043	18,498	1,980	280,565	199.60	586	8	7	1,424	7	319	.....
Total	.....	326,549	18,498	1,980	306,071	*112.30	668	9	8	13,984	25	344	1
Miscellaneous Coal Companies													
Twin and Rayne shafts	Pittston	191,601	25,446	13,901	152,254	123.20	479	12	7	1,975	57	80	4
Phoenix and Columbia shafts	Duryea	212,351	8,560	4,223	199,568	186.90	583	..	7	1,440	56	32	..
Delaware shaft	Plains	208,378	Culm.	3,631	204,747	220.25	475	..	..	6,720	..	62	.....
Mill Hollow shaft	Luzerne	78,377	6,040	2,827	69,550	143.45	242	..	1	1,995	17	34	.....
Black Diamond shaft	Luzerne	191,506	18,040	9,692	163,814	274.15	458	1	1	6,474	27	52	1
Clear Spring shaft	Pittston	188,630	Culm.	14,987	173,643	207.65	489	..	1	1,651	15	65	..
Consolidated shaft and slope	Avoca	114,126	6,229	965	106,932	143.50	..	..	2	1,407	1	37	2
Elmwood 2 shafts	Pittston township	91,082	11,000	2,814	77,268	156.70	268	..	..	1,877	16	32	1
East Boston shaft	Kingston township	148,545	Culm.	2,926	145,619	149.40	577	..	1	1,672	26	29	.....
Ridgewood shaft and slope	Plains township	110,567	8,650	1,030	100,887	128.90	474	1	1	5,567	..	47	..
Avoca shaft	Avoca	61,751	Culm.	1,003	60,748	146.60	298	..	..	2,889	..	32	..
Laughlin shaft	Avoca	83,132	3,800	556	79,776	133.30	378	2	..	2,984	..	37	1
Lathe shaft	Laflin	54,981	6,480	1,703	47,798	123.00	284	1	2	1,736	..	17	1
Katy Did slope	Avoca	59,452	1,200	987	57,265	143.50	188	..	1	2,057	4	23	1
Eaton shaft	Duryea	188,574	7,395	944	180,506	150.20	564	..	15	6,784	12	66	..
Mount Lookout shaft	Wyoming	109,639	6,916	1,337	101,386	71.20	646	2	9	1,415	24	94	1
Louise drifts	Luzerne	57,960	1,502	1,675	54,874	126.40	562	7	4	1,128	1	24	..
Pine Ridge shaft	Miners Mills	319,088	Culm.	4,504	114,584	142.00	389	..	1	1,272	1	43	..
Laurel Run slope	Parsons	81,097	5,170	2,428	73,499	135.20	349	..	3	1,923	14	42	..
Westminster tunnel	Jenkins township	23,375	1,642	.....	21,733	165.60	83	..	..	1,786	2	..	..
Miners Mines tunnel	Jenkins township	15,492	300	50	15,142	146.20	63	..	..	1,240	2	..	.....
Crescent tunnel	Jenkins township	34,662	332	.....	34,760	97.80	97	..	..	1,100	1	2	.....
Hunt tunnel	Wyoming	41,921	1,780	934	39,117	130.30	55	1	..	1,807	12	..	1
Bernice tunnel	Bernice, Sullivan Co.	251,758	2,104	1,580	248,074	222.70	514	..	..	1,807	2	34	1
Stevens shaft and slope	Exeter	167,116	9,850	2,557	154,709	97.00	927	..	20	6,472	16	42	1
Total		2,561,562	142,296	76,078	2,274,148	*140.20	8,240	32	69	89,710	352	1,378	16

*Average.

Recapitulation. TABLE No. 2.—Continued.

Names of Collieries.	Location.	Total production in tons of coal.	Tons of coal consumed at mines.	Tons of coal sold at mines.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.
Pennsylvania Coal Company		1,220,271	60,163		1,160,108	*140.50	3,962	1	18	37,206	149	425	3
Lehigh Valley Coal Company		949,865	28,643	17,454	903,768	*157.20	2,977	10	44	29,055	136	357	5
Butler Mine Company, Limited		234,023	12,540	2,962	218,521	*180.00	917	5	11	11,624	27	62	2
Del., Lacka & Western R. R. Co		222,429	24,000	8,409	190,020	145.90	764	1	31	8,704	44	104	
Forty Fort Coal Co.		326,549	18,498	1,980	306,071	*199.60	668	9	6	11,984	23	144	1
Miscellaneous Coal Companies		2,761,792	132,296	76,038	2,353,458	160.30	8,289	82	99	99,710	322	1,178	16
Total for all coal companies		5,714,929	276,140	106,843	5,331,946	*164.00	17,577	108	209	198,283	701	2,270	27

*Average time worked.

TABLE No. 3.—Showing the number of each class of employes at each colliery in the Third Anthracite District, during the year 1896.

Names of Collieries	Number of Persons Employed Inside.							Number of Persons Employed Outside.							
	Inside foremen.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All other company men.	Superintendents, bookkeepers and clerks.	Total outside.	Grand total inside and outside
Pennsylvania Coal Company															
Barnum 3 shafts	2	164	164	26	62	24	442	1	5	14	75	55	1	151	593
No. 12 and Laws shaft	3	123	123	30	34	14	327	1	3	18	60	37	1	120	447
Nos. 9, 10 and 16 Jr. shafts	2	146	146	42	60	20	416	1	1	15	79	55	1	155	571
Nos. 1 and 8 shafts	1	94	94	17	32	8	246	1	3	10	50	30	1	94	340
Nos. 7 and 4 and Hoyte shafts	3	190	195	36	50	23	497	1	7	15	110	76	1	210	707
Nos. 5, 6 and 11 shafts	3	114	107	30	47	11	312	1	4	14	78	38	1	136	448
No. 14 shaft and tunnel	2	132	166	27	49	10	386	1	4	17	86	45	1	154	540
Schooley shaft	1	88	54	29	21	3	196	1	4	15	67	32	1	120	316
Total Pennsylvania Coal Company	17	1,051	1,049	237	355	113	2,822	8	33	118	605	368	8	1,140	3,962
Lehigh Valley Coal Company															
Prospect, Oakwood and Maple shaft	2	131	147	68	73	17	439	1	19	20	182	76	4	302	741
Wyoming and Henry shaft	3	114	114	72	66	10	379	2	11	25	69	75	4	186	565
Maltby shaft	1	226	40	42	56	24	383	1	7	16	117	42	3	186	569
Exeter shaft	1	123	117	46	49	1	337	1	7	11	79	74	4	176	513
Heidelberg slope	1	42	37	18	21	1	120	1	5	5	90	44	3	148	268
Heidelberg No. 1 shaft	1	57	59	20	18	3	158	1	5	8	83	64	2	163	321
Total Lehigh Valley Coal Company	10	687	514	266	283	56	1,816	7	54	85	620	375	20	1,161	2,977
Butler Mine Company, Limited															
Butler and Chapman shafts	1	158	115	35	41	7	365	1	4	8	101	65	1	180	585

Table No. 3.—Continued.

Names of Collieries.	Number of Persons Employed Inside.							Number of Persons Employed Outside							
	Inside foremen.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All other company men	Superintendents, bookkeepers and clerks.	Total outside.	Grand total inside and outside.
Fernwood shaft.	3	99	85	17	38	10	243	1	4	8	95	30	1	139	382
Schooley shaft.															
Total Butler Mine Company, Limited.	7	243	200	52	79	17	598	2	8	16	196	95	2	319	917
Newton Coal Mining Company.															
Twin and ravine shafts.	2	35	35	75	10	1	158	2	5	10	20	52	3	92	250
Total.	2	35	35	75	10	1	158	2	5	10	20	52	3	92	250
Old Forge Coal Mining Company.															
Phœnix and Columbia shafts.	2	143	147	33	47	12	384	2	8	8	139	37	5	199	583
Total.	2	143	147	33	47	12	384	2	8	8	139	37	5	199	583
Del., Lacka. and Western R. R. Co.															
Hallstead shaft.	1	76	76	41	29	7	230	1	21	8	60	34	.....	124	354
Pettebone shaft.	1	86	86	43	39	9	264	1	7	7	74	57	.....	146	410
Total.	2	162	162	84	68	16	494	2	28	15	134	91	.....	270	764

Forty Fort Coal Company

Forty Fort shaft.
Harris E shaft.

Total.

Miscellaneous Coal Companies

Delaware shaft.
Mill Hollow slope.
Black Diamond shaft.
Clear Spring shaft.
Consolidated shaft and slope.
Elmwood shaft.
Eagle Rocks shaft.
Ridgewood shaft.
Avery shaft.
Ledge Hill shaft.
Laflin shaft.
Kelly Pool slope.
Baldwin shaft.
Mount Lookout shaft.
Ledge drift.
Pine Ridge shaft.
Laurel Run slope.
Westmoreland tunnel.
Miners Mines tunnel.
Prescott tunnel.
Hunt tunnel.
Berner shaft.
Stevens shaft.

Total.

Recapitulation. TABLE No. 3.—Continued.

Names of Collieries.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							
	Inside foremen.	Miners.	Miners' laborers	All company men.	Drivers and runners	Door boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All other company men.	Superintendents, bookkeepers and clerks.	Total outside.	Grand total inside and outside.
Pennsylvania Coal Company,	17	1,951	1,049	237	355	113	2,822	8	33	118	605	368	8	1,140	3,962
Lehigh Valley Coal Company,	10	687	514	266	283	56	1,816	7	54	85	620	375	20	1,161	2,977
Butler Mine Company, Limited,	7	243	200	52	79	17	598	2	8	16	196	95	2	319	917
Newton Coal Mining Company,	2	35	35	75	10	1	158	2	5	10	20	52	3	92	250
Old Forge Coal Mining Company,	2	143	147	33	47	12	384	2	8	8	139	37	5	199	583
Del., Lacka. and Western R. R. Co.,	2	162	162	84	68	16	494	2	28	15	134	91	.....	270	764
Forty Fort Coal Company,	5	181	162	55	87	30	520	2	10	15	67	50	4	148	668
Miscellaneous coal companies,	40	1,909	1,439	542	749	204	4,883	23	104	188	1,425	772	61	2,573	7,456
Total for all coal companies,	85	4,411	3,708	1,344	1,678	449	11,675	48	259	455	3,206	1,840	103	5,902	17,577

TABLE No. 4.—List of fatal accidents that occurred in and about the mines of the Third Anthracite Mine District, for the year ending December 31, 1896.

Date of accident.	Number of accident.	Name of Person.	Occupation.	Age	Widow.	Number of children.	Name of Colliery.	Location.	Nature and Cause of Accident
Jan. 28,	1	John Mathews,	Laborer	28	M	1	Harry E. shaft,	Forty Fort,	Fatally injured by a car knocking a mule on him. Died January 30.
29,	2	Mike Kovilko,	Culm tender	30	S.	....	Prospect breaker,	Plains township,	Smothered by falling in culm chute.
Feb. 1,	3	Martin Gilligan,	Chargeman	28	M.	1	Twin shaft,	Pittston,	Fatally burned by an explosion of gas. Died February 5.
6,	4	Joseph Barrett,	Laborer,	48	M.	....	Laflin shaft,	Laflin,	Killed by falling down the shaft.
15,	5	John Morak,	Miner,	45	S.	....	Ridgewood shaft,	Plains township,	Fatally injured by fall of rock. Died February 17.
27,	6	Alex Kashinski,	Miner,	26	S.	..	Schooley shaft,	Exeter,	Fatally injured by fall of rock. Died same day.
Mar. 2,	7	Michael Maleiski,	Laborer,	28	M.	1	Wyoming shaft,	Plains township,	Fatally injured by fall of rider coal. Died same day.
6,	8	Joseph Gasseck,	Laborer,	25	M.	1	Langcliffe shaft,	Avoca,	Killed by a fall of coal. He was warned to keep back but failed to do so.
16,	9	Thomas Mooney,	Trackman	36	M.	5	Chapman shaft,	Pittston township,	Killed while stepping from the cage at the bottom by a fall of ice.
24,	10	John Goeltskie,	Laborer,	32	M.	6	Twin shaft,	Pittston,	Killed by fall of rock.
26,	11	Mike Misrosck,	Laborer,	36	M.	3	Black Diamond outside,	Luzerne,	Killed by a slide of culm while attending the conveyor.
April 1,	12	Frank Milk,	Laborer	....	S.	....	Babylon shaft,	Duryea,	Fatally injured by a fall of rock. Died April 3.
14,	13	Anthony Moleskie,	Doorboy	14	S.	....	Twin shaft,	Pittston,	Killed by a car jumping the track on him.
May 7,	14	Martin Lavonick,	Miner,	38	S.	....	Black Diamond shaft,	Luzerne,	Killed by a fall of checker coal.
12,	15	Charles Smith,	Miner,	32	S.	....	Babylon shaft,	Duryea,	Killed by fall of rock.
13,	16	Mike Wenshok,	Laborer	25	M.	3	Midvale slope,	Plains township,	Fatally injured by fall of rider coal. Died next day.
13,	17	Mike Milefskie,	Miner,	40	M.	2	Maltby shaft,	Maltby,	Killed by a blast blown through a pillar while driving an entrance.
27,	18	Wm. Hoover,	Driver	17	S.	....	Louise breaker,	Luzerne,	Fatally injured by car falling down breaker tower. Died after being taken home

Table No. 4.—Continued.

Date of accident.	Number of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of children.	Name of Colliery.	Location.	Nature and Cause of Accident.
May 28	19	George Winski,	Laborer,	26	S.	....	Pettebone shaft,	Kingston township,	Fatally injured by fall of rock. Died same day.
June 20	20	Mike Peto,	Miner,	36	M.	....	Butler shaft,	Pittston township,	Killed by falling down a shaft.
" 21	21	Andrew Cunnel,	Miner,	40	M.	1	Harry E. shaft,	Forty Fort,	Killed by fall of top coal at face of chamber.
28,	22	M. J. Langan,	Superintendent,	44	M.	10	Twin shaft,	Pittston,	
28,	23	M. T. Lynott,	Mine boss,	47	M.	7	Twin shaft,	Pittston,	
28,	24	Alex. McCormack,	Fire boss,	42	M.	8	Twin shaft,	Pittston,	
28,	24	Michael Hughes,	Fire boss,	35	M.	1	Twin shaft,	Pittston,	
28,	26	Thomas Tenpenny,	Fire boss,	34	M.	3	Twin shaft,	Pittston,	
28,	27	Con McGuire,	Fire boss,	34	M.	2	Twin shaft,	Pittston,	
28,	28	Anthony Kane,	Driver boss,	28	S.	....	Twin shaft,	Pittston,	
28,	29	Thomas Murphy,	Driver boss,	36	S.	....	Twin shaft,	Pittston,	
28,	30	Edward Delaney,	Brattice man,	38	M.	4	Twin shaft,	Pittston,	
28,	31	Robert Heston,	Machinist,	38	S.	....	Twin shaft,	Pittston,	At about 3 o'clock A. M., on June 28, an extensive area of the overlying strata in the Twin Shaft workings came down so suddenly as to entomb 58 persons who were engaged in standing timber to support the roof, and in removing a pump. Not one of the number escaped, nor were their bodies recovered. (For full account see report.)
28,	32	Daniel Ward,	Machinist,	36	M.	3	Twin shaft,	Pittston,	
28,	33	John Gill,	Track layer,	34	M.	1	Twin shaft,	Pittston,	
28,	34	James Wall,	Miner,	46	M.	7	Twin shaft,	Pittston,	
28,	35	Peter Gavatskie,	Miner,	40	M.	6	Twin shaft,	Pittston,	
28,	36	Patrick Ryan,	Miner,	45	M.	8	Twin shaft,	Pittston,	
28,	37	Edward Gilde,	Miner,	36	M.	5	Twin shaft,	Pittston,	
28,	38	Joseph Zerinda,	Miner,	45	M.	5	Twin shaft,	Pittston,	
28,	39	Simon Mosock,	Miner,	35	M.	1	Twin shaft,	Pittston,	
28,	40	Thomas Gaffney,	Miner,	38	M.	6	Twin shaft,	Pittston,	
28,	41	John Highstrick,	Miner,	36	M.	3	Twin shaft,	Pittston,	
28,	42	Frank Sheaskie,	Miner,	36	M.	2	Twin shaft,	Pittston,	
28,	43	Andrew Slavinskie,	Miner,	33	M.	2	Twin shaft,	Pittston,	
28,	44	Adam Zemoiden,	Miner,	32	M.	1	Twin shaft,	Pittston,	
28,	45	Anthony Teleskie,	Miner,	34	M.	1	Twin shaft,	Pittston,	
28,	46	Thomas Duhigg,	Miner,	28	S.	....	Twin shaft,	Pittston,	
28,	47	James Burke,	Miner,	38	S.	....	Twin shaft,	Pittston,	
28,	48	M. J. Burke,	Miner,	32	S.	....	Twin shaft,	Pittston,	

49	Peter Martin	Laborer	M		Twin shaft			Pittston,					
50	John O'Boyle	Laborer	M		Twin shaft			Pittston,					
51	James McDonald	Laborer	M		Twin shaft			Pittston,					
52	Anthony Gerlan	Laborer	M		Twin shaft			Pittston,					
53	John Kehoe	Laborer	W.	2	Twin shaft			Pittston,					
54	James Golden	Laborer	M		Twin shaft			Pittston,					
55	Thomas Carlele	Laborer	M		Twin shaft			Pittston,					
56	Matthias Abeshe	Laborer	M		Twin shaft			Pittston,					
57	Michael Ford	Laborer	M		Twin shaft			Pittston,					
58	Sylvester Dugan	Laborer	M		Twin shaft			Pittston,					
59	Patrick Boland	Laborer			Twin shaft			Pittston,					
60	Michael Gaugher	Laborer			Twin shaft			Pittston,					
61	John Cadarris	Laborer			Twin shaft			Pittston,					
62	Peter Bukoske	Laborer			Twin shaft			Pittston,					
63	Anthony Schunske	Laborer	M		Twin shaft			Pittston,					
64	Peter Joyce	Laborer			Twin shaft			Pittston,					
65	Thomas Barber	Laborer			Twin shaft			Pittston,					
66	James Costello	Laborer			Twin shaft			Pittston,					
67	Anthony Cavanaugh	Laborer			Twin shaft			Pittston,					
68	Dominick Muller	Laborer			Twin shaft			Pittston,					
69	Patrick Kelley	Laborer			Twin shaft			Pittston,					
70	Martin Gillespie	Engineer	M		Twin shaft			Pittston,					
71	John Gaffney	Runner			Twin shaft			Pittston,					
72	Owen Lee	Runner			Twin shaft			Pittston,					
73	Thomas Wood	Runner			Twin shaft			Pittston,					
74	Timothy Feeney	Runner			Twin shaft			Pittston,					
75	John Hart	Footman			Twin shaft			Pittston,					
76	James Daley	Footman			Twin shaft			Pittston,					
77	Michael Connell	Footman			Twin shaft			Pittston,					
78	Frank Kehoe	Driver			Twin shaft			Pittston,					
79	Simon Mazikewski	Laborer			Butler shaft			Pittston township.					
80	Fred Harper	Machinist	M		Black Diamond			Lafayette,					
July													
1	John Checkowski	Laborer			Exeter shaft			Exeter,					
2	Teddie Pattoski	Miner			Hunt tunnel			Wyoming,					
4	Ludwig Grosskopf	Laborer			Ravine breaker			Pittston,					
8	Jacob Williams	Miner			Babylon shaft			Duryea,					
12	John Morgan	Breakman			Exeter breaker			Exeter,					
13	Michael Mullen	Company			Exeter breaker			Exeter,					
27	George Roberts	Miner			Harry E shaft			Derry Part,					

At about 3 o'clock A. M., on June 2, an extensive area of the overlying strata in the Twin Shaft workings came down, so suddenly as to entomb 5 persons who were engaged in stripping timber to support the roof, and in repairing a pump. Not one of the barrier escaped, nor were their bodies recovered. (For full account see report.)

Killed by fall of rock in [illegible]
Fatally injured by [illegible]
shaft while he was standing on [illegible]
bottom.
Killed by fall of rock.
Fatally injured by fall of [illegible]
Fatally injured. Caught in [illegible]
conveyors.
Fatally injured by fall of coal [illegible]
August 13 and died [illegible]
Were killed while they were getting [illegible]
an empty car in this slope to [illegible]
tower. The car [illegible] self-acting
base. The [illegible] had been [illegible]
[illegible] were in the [illegible]
[illegible] and [illegible]
[illegible] [illegible]
[illegible]

Table No. 4.—Continued.

Date of accident.	Number of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of children.	Name of Colliery.	Location.	Nature and Cause of Accident.
Sept. 9.	89	John O'Gorkis,	Miner,	24	S.	....	Exeter shaft,	Exeter,	Killed by fall of rock.
23.	90	Walter Turkowskie,	Driver,	16	S.	....	Mount Lookout shaft,	Wyoming,	Fatally injured; fell while bringing a trip of cars out, and a car wheel fractured his skull.
Oct. 12,	91	Thomas Mitchell,	Miner,	33	M.	5	Laflin shaft,	Laflin,	Mitchell and his two laborers were instantly killed while skipping the pillar at foot of shaft to lay a road to take the empty cars off the cage, so as to hoist coal on both carriages. The roof on the lower side had been taken down some time previous. The mine boss cautioned Mitchell to look out for the roof and take it down, which he said he would do; he fired a blast and he and his laborers went under the rock to see what the shot had done, when the rock fell upon them.
12,	92	George Puchinskei,	Laborer,	26	S.	....	Laflin shaft,	Laflin,	
12,	93	John Petruse,	Laborer,	24	S.	....	Laflin shaft,	Laflin,	
12,	94	Michael Blandina,	Miner,	45	M.	2	Stevens slope,	Exeter,	Fatally burned by an explosion of gas. Died October 18.
14,	95	Paul Olanick,	Laborer,	30	S.	....	Harry E shaft,	Forty Fort,	Killed by fall of rock.
21,	96	Joseph Rocoskey,	Miner,	30	M.	2	Harry E shaft,	Forty Fort,	Killed by fall of top coal.
24.	97	Mathew Mulligan,	Miner,	38	S.	....	Henry shaft,	Plains township,	Fatally injured by fall of top rock.
26,	98	Fred. Passack,	Laborer,	22	M.	....	Black Diamond shaft,	Luzerne,	Killed by fall of coal.
31,	99	Joseph Madden,	Miner,	36	S.	....	Hunt tunnel,	Wyoming,	Killed by a premature blast while tamping a hole.
Nov. 9,	100	John Powvish,	Laborer,	33	M.	2	Prospect shaft,	Plains township,	Killed by fall of rider coal.
10,	101	Alex. Rink,	Miner,	30	S.	....	Mount Lookout shaft,	Wyoming,	Killed by fall of rock.
27.	102	Michael Saltus,	Laborer,	50	M.	....	Harry E. shaft,	Forty Fort,	Killed by fall of rock.
Dec. 1.	103	Stephen Drother,	Laborer,	48	M.	5	Butler slope,	Pittston township,	Killed by fall of checker coal.
8.	104	John Kobokonski,	Miner,	31	S.	....	Langcliffe shaft,	Avoca,	Fatally injured. Shot through pillar by a blast he was firing.

9.	105	John O'Hollegan,	Miner,	51	M.	10	No. 4 shaft,	Pittston,		Fatally injured by fall of rock. Died same evening.
9.	106	Thomas Morgan,	Slope runner,	35	S.		Forty Fort shaft,	Forty Fort,		Fatally injured by fall of rock. Died next day.
16.	107	John Sheska,	Miner,	48	M.	5	Harry E. shaft,	Forty Fort,		Killed by fall of top coal.
17.	108	John Cornella,	Door boy,	16	S.		Harry E. shaft,	Forty Fort,		Fatally injured by falling under trip of cars. Died next day

TABLE No. 5.—List of Non-Fatal accidents that occurred in and about the mines of the Third Anthracite Mine District, for the year ending December 31, 1896.

Date of accident.	Number of accident.	Name of Person.	Occupation.	Age.	Married.	Number of children.	Name of Colliery.	Location.	Nature and Cause of Accident.
Jan. 3,	1	Lewis Sashinsky,	Miner	31	S.	....	Schooley shaft,	Exeter,	Bruised by fall of rock.
4,	2	John Padmanik,	Miner	38	M.	4	East Boston shaft,	Kingston township,	Head cut by fall of rock.
4,	3	Enoch Miller,	Driver	28	S.	....	Stevens slope,	Exeter,	Both legs broken by having been caught between car bumpers.
4,	4	John Skendel,	Miner,	32	S.	....	Exeter shaft,	Exeter,	Head and face cut; went back to a blast he thought had failed.
7,	5	Lewis Viskooki,	Laborer,	20	M.	2	Henry shaft,	Plains township,	These two men were painfully injured by fall of rock while loading a car.
7,	6	Michael Dooly,	Laborer,	40	M.	2	Henry shaft,	Plains township,	
8,	7	Jas Sherata,	Laborer	32	M.	....	Babylon shaft,	Duryea,	Foot painfully injured. He drove a pick into it.
10,	8	Edward Naugle,	Gate tender	17	S.	....	Butler breaker	Pittston township,	Hand crushed.
15,	9	Harry Patience,	Laborer,	17	S.	....	Exeter breaker	Exeter,	Arm painfully squeezed by having been caught in conveyors.
15,	10	Michael Healey,	Miner,	49	M.		Consolidated slope	Avoca,	Father and son were severely injured by fall of soapstone.
15,	11	Michael Healey,	Laborer	24	S.		Consolidated slope,	Avoca,	
16,	12	Charles Coopris,	Miner,	55	M.	1	East Boston shaft,	Kingston township,	Head and leg bruised by fall of checker coal.
20,	13	Geo. Carr,	Miner	42	M.	7	Mill Hollow shaft,	Luzerne,	Painfully bruised by fall of bony coal.
21,	14	James Smith,	Runner	23	S	....	Henry shaft,	Plains township,	Squeezed while coupling cars.
22,	15	Andrew Moscow,	Runner	20	S	....	Phoenix breaker,	Duryea,	Severely squeezed between cars while coupling them.
24,	16	Robt. Deckell,	Miner	32	M.	3	Babylon shaft,	Duryea	Spine injured by a piece of rock falling on him.
27,	17	Archie Stanton,	Track man,	22	S.	....	Babylon shaft,	Duryea,	Leg broken by a fall of rock.
27,	18	Anthony Broshick	Laborer	38	M.		Mill Hollow shaft,	Luzerne,	Severely bruised by coal sliding off the gob on him.
29,	19	Anthony Kane,	Driver boss	20	S		Twin shaft,	Pittston	Slightly burned and bruised by an explosion of gas.
30,	20	Peter Larke,	Driver,	17	S		Clear Spring shaft,	Pittston	Leg broken; fell under trip of empty cars.

	20	21	Mike Cleiham,	Runner	8	S.		Bear Spring shaft	Pittston,	Fingers crushed while spragging a car.
	29	22	John Bennett,	Feeder man	37	S.		Maltby breaker,	Maltby,	Scalded by steam while about to clean the boilers.
	30,	23	S. D. Phillips,	Mine boss	47	M.		Pettebone shaft,	Kingston township,	These men were more or less severely burned by an explosion of gas which was ignited from a burning feeder that they were trying to extinguish at the time.
	30,	24	D. L. Jones,	Fire boss,	45	M.		Pettebone shaft	Kingston township,	
	30	25	John Robbins,	Plane runner	22	S.		Pettebone shaft	Kingston township,	
	30,	26	John H. Edwards,	Track man	35	M.		Pettebone shaft,	Kingston township,	
	30,	27	Wm. Hughes,	Miner,	47	M		Pettebone shaft,	Kingston township,	
	30,	28	Cellins Rundle,	Runner	24	S.		Pettebone shaft	Kingston township,	
	31,	29	William Laksavage,	Miner,	21	S.		East Boston shaft	Kingston township,	He and his laborer were severely injured by a fall of rock while in the act of tamping a hole.
	31,	30	Anthony Gawesky,	Laborer,	24	S.		East Boston shaft	Kingston township,	
	31,	31	Alex. Craig,	Miner,	34	M.	7	No. 13 shaft	Moosic,	Arm broken and otherwise injured by fall of rock.
Feb.	1.	32	Stanley Dugan,	Miner	38	M.	3	Twin shaft	Pittston,	Leg broken and back bruised by fall of coal.
	1.	33	Patrick Kelley,	Runner	40	S.		Twin shaft	Pittston,	Were severely burned by an explosion of gas while working in a rock tunnel. Martin Milligan was fatally burned at same time.
	1.	34	James O'Boyle,	Runner	30	M.		Twin shaft	Pittston,	
	1.	35	Joseph Valincy,	Laborer	28	M.		Butler shaft	Pittston township,	Painfully bruised by having been caught between car and gob while pulling the block from wheels.
	1.	36	Henry Williams,	Miner	40	M.	1	Exeter shaft	Exeter,	Leg broken by having been caught by car on heading road.
	6.	37	Geo. Gregus,	Miner	40	M		Twin shaft,	Pittston,	Slightly burned by gas in the face of chamber.
	6.	38	Andrew Molus,	Laborer,	30	S.		Twin shaft	Pittston,	
	7.	39	Andrew Stang,	Miner	26	S.		Stevens slope	Exeter,	Head injured by a piece of rock falling on him.
	13	40	James Thomas,	Miner	39	M	2	Clear Spring shaft	Pittston,	Hand painfully cut while barring down rock
	14.	41	John Walsh,	Miner,	34	M	4	Ridgewood shaft	Jenkins township,	Painfully bruised by fall of top coal.
	17.	42	Howell Watkins,	Miner,	52	M.		Pettebone shaft	Kingston township,	Those men were more or less severely burned by an explosion of gas while in the act of extinguishing a feeder which had become ignited from burning coal in the Cooper seam.
	17.	43	Richard James,	Miner	45	M		Pettebone shaft	Kingston township,	
	17.	44	Thomas Kifer,	Runner	22	M.		Pettebone shaft,	Kingston township,	
	17,	45	John Samuels,	Miner	56	M.		Pettebone shaft,	Kingston township,	
	17,	46	George Powell,	Fire boss	35	M.		Pettebone shaft	Kingston township,	
	20.	47	Sabbats Neating,	Slate picker	17	S.		Fernwood breaker	Jenkins township,	Leg broken; slipped on sheet rock in schute.
	21.	48	John M. Williams,	Driver,	17	S.		Babylon shaft,	Duryea,	Painfully squeezed between car and mule.
	22.	49	Joseph Charties,	Laborer	27	M.		Hallstead shaft,	Duryea,	Face and hand burned by gas.
	25.	50	Mike Small,	Miner	37	S.		Exeter shaft,	Exeter,	Face and hand severely burned by gas.
	26	51	Adam Kushambra,	Laborer	30	S.		Henry shaft,	Plains,	Painfully injured by a premature blast
	28.	52	John Williams,	Laborer	23	M.		Louise drift,	Luzerne,	Seriously injured on the back by fall of rock.
	29	53	Edward Walters,	Laborer	20	S.		Black Diamond,	Luzerne,	Back and hips painfully bruised by fall of rock.
Mar.	2	54	John Rodwinski,	Laborer	27	S.		Wyoming shaft,	Plains,	Severely injured by fall of rider coal
	3.	55	Joseph Knott,	Teamster	45	M.		Hallstead outside,	Duryea,	Leg broken; fell from his wagon
	4.	56	Joseph Lukotch,	Laborer	32	M.		Exeter shaft,	Exeter,	Back bruised by fall of soap stone
	4.	57	John Glenwright,	Miner	60	S.		Black Diamond shaft,	Luzerne,	Slightly bruised by fall of rock.

Table No. 5.—Continued.

Date of accident.	Number of accident.	Name of Person.	Occupation.	Age.	Married.	Number of children	Name of Colliery.	Location.	Nature and Cause of Accident.
Mar. 5,	58	Thos. Mahaffey,	Miner,	27	M.	....	Bernice drift,	Bernice,	Leg broken by fall of coal.
6,	59	Mike Morris,	Miner,	37	M.	....	Wyoming shaft,	Plains,	Severely burned by cartridge of powder exploding in his hand.
10,	60	George Norvasa,	Laborer,	20	S.	....	East Boston shaft,	Kingston township,	Toes cut off by fall of rock.
10.	61	Andrew Peschousvtz,	Laborer,	16	S.	....	Babylon shaft,	Duryea,	Leg painfully squeezed between car bumper.
10.	62	Thos. Lavine,	Miner,	26	S.	....	Henry shaft,	Plains,	Seriously injured on head and breast by fall of rider coal.
11.	63	John McAnulty,	Trackman,	36	M.	5	Phoenix shaft,	Duryea,	Leg broken and otherwise injured by trip of cars jumping track on him.
13,	64	Mike Ruone,	Slate picker,	13	S.	....	Butler breaker,	Pittston township,	Head painfully injured by falling off a plank while playing.
19,	65	Owen Edwards,	Laborer,	40	M.	....	Stevens shaft,	Exeter,	Thigh fractured by fall of rock.
19,	66	Mike Zuhonski,	Laborer,	24	M.	....	Exeter shaft,	Exeter,	Head bruised and cut by fall of rock.
27,	67	Joseph Gates,	Driver,	16	S.	....	Exeter shaft,	Exeter,	Squeezed between mule and pillar.
April 2,	68	Thos. Grimes,	Laborer,	31	S.	....	No. 10 shaft,	Hughestown,	Leg broken and knee dislocated by falling under car.
2,	69	John Loughney,	Slate picker,	13	S.	....	Fernwood breaker,	Jenkins township,	Thigh cut and bruised; fell against screen.
7,	70	Joe Davis,	Driver,	15	S.	....	Katy Did slope,	Avoca,	Kicked in the face by a mule.
7,	71	Dennis Flannery,	Laborer,	30	S.	....	No. 11 shaft,	Jenkins township,	Leg broken by a rail striking him.
10,	72	Daniel Molard,	Miner,	28	S.	....	Harry E. shaft,	Forty Fort,	Painfully bruised by rock falling on him.
10.	73	Geo. Rudsavage,	Laborer,	22	S.	....	Stevens shaft,	Exeter,	Foot crushed by a fall of rock, necessitating amputation.
13,	74	Jas. Alger,	Runner,	16	S.	....	Langcliffe shaft,	Avoca,	Leg broken; while riding on front of car foot caught in rail.
15.	75	Harry Conyard,	Miner,	33	M.	2	Maltby shaft,	Maltby,	Leg broken by coal falling off pillar on him.
15.	76	Wm. Haley,	Headman,	16	S.	....	Bernice outside,	Bernice,	Foot bruised; caught between car bumpers.
16.	77	Joe Secoski,	Miner,	27	S.	....	Stevens slope,	Exeter,	Hip bruised by coal falling on him.

	20,	81	Daniel Dempsey,	Miner	27	M.	....	Hallstead shaft,	Duryea,	Fingers crushed while taking block from under car wheel.
	21,	78	John Schaefer,	Miner	53	M.	11	Maltby shaft,	Maltby,	Leg broken by piece of coal he was throwing into car.
	22,	79	Thos. Lawson,	Miner,	34	M.	4	Forty Fort,	Forty Fort,	Leg broken in two places by fall of rock.
	23,	80	Thos. Evans,	Miner.	18	S.	....	Bernice drift,	Bernice,	Back painfully bruised by fall of bony coal.
	24,	82	Joe Lowen,	Miner,	38	S.	....	Babylon shaft,	Duryea,	Head cut and bruised by coal flying from a blast.
	29,	83	Howell Wickizer,	Laborer	38	M.	....	Babylon outside,	Duryea,	Kicked in the side by a mule.
May	12,	84	Adam Dudar,	Laborer	....	S.	....	Babylon shaft,	Duryea,	Severely injured by fall of rock
	13,	85	George Bellas,	Driver,	18	S.	....	Hallstead outside,	Duryea,	Thigh painfully bruised by having been kicked by a mule.
	19,	86	Fred Packe,	Driver,	20	S.	....	Pettebone shaft,	Kingston township,	Severely injured; kicked on the face by a mule.
	21,	87	Joe Earley,	Driver,	16	S.	....	No. 6 shaft,	Jenkins township,	Leg broken; fell under car.
	22,	88	Martin McAndrew,	Miner,	....	S.	....	No. 6 shaft,	Jenkins township,	Severely injured by car jumping the track on him.
	22,	89	Harry Feddon,	Miner,	24	S.	....	No. 8, shaft,	Hughestown,	Small bone of leg broken by fall of coal.
	27,	90	Arthur Hoffa,	Slate picker,	15	S.	....	Exeter breaker,	Exeter,	Back injured; fell between cars.
	27,	91	Frank Eyca,	Laborer	35	S.	....	East Boston shaft,	Kingston township,	Arm painfully bruised by fall of rock while repairing road.
	28,	92	John Mangan,	Driver,	15	S.	....	Hoyte shaft,	Jenkins township,	Fingers crushed; while unhitching the mule was caught by car bumpers.
June	2,	93	James Perrin,	Door boy,	15	S.	....	Oakwood shaft,	Plains township,	Head severely bruised by cars knocking a door on him.
	4,	94	Walter Jonasky,	Laborer,	23	S.	....	Clear Spring shaft,	Pittston,	Leg broken by fall of rider coal.
	5,	95	Geo. Kluznick,	Miner,	33	M.	2	Hallstead shaft,	Duryea,	Head cut by fall of rock.
	10,	96	August Knapp,	Driver,	20	S.	....	Hallstead shaft,	Duryea,	Fingers severely cut and bruised while coupling cars.
	10,	97	Anthony Sucopocky,	Miner,	35	M.	3	Louise drift,	Luzerne,	While tamping hole, fell off the scaffold he was on and drill entered his side.
	18,	98	Thos. Slaho,	Miner,	38	S.	....	Wyoming shaft,	Plains,	Severely cut and bruised by blast
	24,	99	Joseph Yonschoe,	Culm man	24	S.	....	No. 14 breaker,	Jenkins township,	Leg broken, struck by culm plane rope.
	25,	100	Ed. O. Boyle,	Miner,	41	M.	4	Laurel Run slope,	Parsons,	Leg broken by fall of rider coal.
July	1,	101	Wm. Apkovich,	Miner,	30	S.	....	Louise drift,	Luzerne,	Back painfully bruised by fall of rock.
	2,	102	Geo. Young,	Laborer	30	S.	....	Laws shaft,	Pittston township,	Were severely injured on their backs and shoulders by a fall of bony coal.
	2,	103	James Dougherty,	Laborer	19	S.	....	Laws shaft,	Pittston township,	
	2,	104	Frank Markowitz,	Miner,	52	M.	....	Hallstead shaft,	Duryea,	Arm painfully cut by coal flying from a blast.
	2,	105	John Lewis,	Timberman	50	M	1	Laurel Run slope,	Parsons,	Arm broken by car jumping the track on him.
	7,	106	Andrew Langan,	Laborer,	27	S.	....	Barnum No. 3 shaft,	Marcy township,	Head cut by rock falling on him.
	9,	107	John Turak,	Miner.	44	S.	....	Butler shaft,	Pittston township,	Face and hand burned by powder he was handling.
	11,	108	Patrick Casey,	Runner.	20	S.	....	Harry E. shaft,	Forty Fort,	Severely bruised; fell under car.
	18,	109	Charles Reilley,	Miner,	49	M.	....	Pettebone shaft,	Kingston township,	Painfully bruised by coal bursting from face of chamber on him.
	21,	110	Alford Johnson,	Laborer	36	M	....	Pettebone shaft,	Kingston township,	Slightly burned on face and hands by gas.

Table No. 5.—Continued.

Date of accident.	Number of accident	Name of Person.	Occupation.	Age.	Married.	Number of orphans.	Name of Colliery	Location—County.	Nature and Cause of Accident.
July 22,	111	Stephen Dobary,	Miner,	36	M.	3	Maltby shaft,	Maltby,	Face and hands painfully burned by gas.
Aug. 1,	112	Charles James,	Miner,	36	M.	4	Laurel Run slope,	Parsons,	Leg broken and spine injured by fall of rock.
5,	113	Luke Phillips,	Timberman,	32	M.		Pettebone shaft,	Kingston township,	Hips severely bruised by cross-timber falling on him.
6,	114	Joe Friel,	Miner,	30	S.		Pettebone shaft,	Kingston township,	Knee painfully bruised by fall of rock.
6,	115	Adam Nook,	Laborer,	28	S.		Hunt tunnel,	Wyoming,	Painfully bruised by having been caught between cars and side of tunnel.
8,	116	Joe Marchets,	Ashwheeler,	30	M.		Mt. Lookout outside,	Wyoming,	Leg broken by a fractious mule.
10,	117	John Clinichac,	Laborer,	24	M.		No. 14 drifts,	Jenkins township,	Hip bruised by fall of coal.
12,	118	Anthony Drobnis,	Door boy,	15	S.		East Boston shaft,	Kingston township,	Leg broken and face cut by falling in front of cars.
13,	119	Lewis Culencabbage,	Miner,	25	S.		Hunt tunnel,	Wyoming,	Seriously injured by fall of rock.
13,	120	Andrew Bushvok,	Headman,	19	S.		Exeter outside,	Exeter,	Squeezed between cars he was uncoupling.
17,	121	Adam Yanovick,	Miner,	28	S.		Babylon shaft,	Duryea,	Spine injured by fall of rock.
20,	122	Simon Kablet,	Miner,	30	S.		Mount Lookout shaft,	Wyoming,	Slightly injured by cage striking the bottom.
22,	123	John Sweetz,	Driver,	22	S.		Maltby shaft,	Maltby,	Severely bruised by having been squeezed between car and pillar.
24,	124	Joe Cherry,	Laborer,	26	M.	1	Henry shaft,	Plains,	These men were severely injured about the body by fall of rider coal while loading a car.
24,	125	Lewis Benson,	Laborer,	30	S.		Henry shaft,	Plains,	
24,	126	Joe Scandal,	Laborer,	27	S.		Clear Spring shaft,	Pittston,	Painfully bruised by fall of rock.
25,	127	David Walsh,	Footman,	21	S.		Maltby shaft,	Maltby,	Leg broken; his foot caught between cage and shaft timber.
27,	128	Barney Orsavage,	Miner,	42	M.	4	Harry E. shaft,	Forty Fort,	Leg broken while putting car on track.
31,	129	Charles Meehan,	Miner,	40	M.	5	Prospect shaft,	Plains,	Meehan had his collar bone broken and Gradock, his laborer, was severely bruised by a fall of rock.
31,	130	John Graddock,	Laborer,	20	S.		Prospect shaft,	Plains,	
Sept. 1,	131	Geo. Eagen,	Laborer,	20	S.		No. 4 shaft,	Pittston,	Ankle broken by fall of coal.
2,	132	John Smith,	Laborer,	20	S.		Stevens slope,	Exeter,	Painfully squeezed bteween cars.

	2.	133	Dominick Altosus,	Laborer	28	S.		Miners tunnel,	Jenkins township,	These three men were more or less injured severely by coal flying from a blast. Both miners had a blast prepared and ignited at the same time and ran into each other's chambers.
	2.	134	Foster Fesse,	Miner	37	M.	3	Miners tunnel,	Jenkins township,	
	2.	135	Wm. Pestanaki,	Miner	34	M.	1	Miners tunnel,	Jenkins township,	
	4	136	Thos. Anderson,	Door boy	14	S.		Stevens shaft,	Exeter,	Leg crushed by car wheels necessitating amputation.
	5	137	Thos. Gallagher,	Door boy	14	S.		Hoyts shaft,	Jenkins township,	Kicked on the face by a mule.
	7.	138	Jos. Porter,	Breaker boy	12	M.		Maltby breaker,	Maltby,	Fingers crushed by falling timber.
	7.	139	Jos. Updeke,	Miner,	45	S.		Prospect shaft,	Plains,	Severely cut and bruised by a fall of fire clay roof.
	7.	140	August Yourkus,	Laborer,	28	S.		Prospect shaft,	Plains,	
	11.	141	Yonkel Size,	Laborer	25	S.		Pettebone shaft,	Kingston,	Drove the pick through his foot while cleaning coal.
	15.	142	Peter Tichler,	Miner,	50	M.		Barnum No. 2,	Marcy,	Hands and back painfully burned by gas.
	15.	143	Wm. Grant,	Miner,	56	M.	4	Mount Lookout,	Wyoming,	Back bruised by fall of rock.
	16.	144	Frank Komora,	Miner,	50	M.	2	Maltby shaft,	Maltby,	Hips bruised by coal from a blast that he thought had missed.
	17.	145	Emanuel Buckley,	Miner,	50	M.	2	Seneca shaft,	Pittston,	Head bruised and cut by fall of rock.
	19.	146	Stephen McGrath,	Slate picker,	14	S.		Pettebone breaker,	Kingston township,	Painfully bruised by falling off ballester of steps in breaker.
	19.	147	Anthony Carroll,	Miner,	40	M.	3	Clear Spring shaft,	Pittston,	Painfully burned on face and hands by gas; the fire boss warned them not to go into their chamber.
	19.	148	Patrick Brennan,	Miner,	36	M.		Clear Spring shaft,	Pittston,	
	19	149	Harry King,	Miner,	30	M.	1	Consolidated shaft,	Avoca,	Nose broken and body bruised by premature blast.
	23.	150	Wm. Young,	Miner,	50	S.		No. 10 shaft,	Hughestown,	Seriously injured by fall of rock.
	25.	151	Geo. Adams,	Footman,	40	M.	3	Phoenix shaft,	Duryea,	Leg broken by having been caught between car bumpers.
	26.	152	Martin Considine,	Driver,	21	S.		Henry shaft,	Elon,	Foot broken by iron rail falling on it.
Oct	1.	153	Larry Brodur,	Laborer,	33	M.	2	Mount Lookout shaft,	Wyoming,	Painfully cut and bruised by a premature blast.
	1.	154	Alex. Rink,	Miner,	30	S.		Mount Lookout shaft,	Wyoming,	
		155	Wm. Frank,	Laborer,	45	M.	2	Mount Lookout shaft,	Wyoming,	Slightly injured by fall of rider coal.
	6.	156	Rees Price,	Miner,	62	M.	6	Wyoming shaft,	Plains,	Leg broken by fall of rock.
	8.	157	Anthony Demski,	Miner,	20	S.		Maltby shaft,	Maltby,	Face and hands burned by gas.
	10.	158	Mike Charles,	Laborer,	35	M.	3	Hunt tunnel,	Wyoming,	Severely injured by fall of rock.
	13.	159	John Robertson,	Miner,	42	M.	3	Hoyte shaft,	Jenkins township,	Foot crushed by fall of rock necessitating amputation.
	13.	160	Frank Hughes,	Car dumper,	15	S.		Babylon shaft,	Duryea,	Leg painfully squeezed while coupling cars.
	15.	161	John Gallagher,	Brattice man,	47	M.	7	Babylon shaft,	Duryea,	Leg broken by fall of rock.
	17.	162	Sam'l D. Phillips,	Mine boss,	38	M.		Pettebone shaft,	Kingston township,	Painfully burned on face and hands by an explosion of gas. They went in after an explosion to see if any lesters were burning, when they were burned.
	17.	163	Wm. Bainbridge,	Miner,	42	M.		Pettebone shaft,	Kingston township,	
	17.	164	John Bainbridge,	Miner,	20	M.		Pettebone shaft,	Kingston township,	
	19.	165	Peter Brown,	Miner,	46	M.	6	Clear Spring shaft,	Pittston,	Painfully cut and bruised by a premature blast.
	20.	166	Geo. Gustus,	Miner,	37	M.		Chapman shaft,	Pittston township,	Back injured by fall of rock.
	21.	167	Tom Gozdo,	Laborer,	30	S.		Fernwood shaft,	Pittston township,	Leg broken by fall of rock.
	21.	168	Stevens Andrews,	Laborer,	25	S.		Mount Lookout shaft,	Wyoming,	Leg broken in two places by fall of rock.
	21.	169	Wm. Whitney,	Road man,	62	M.	1	Babylon shaft,	Duryea,	Hip bruised by having been kicked by a mule.

TABLE No. 5.—Continued.

Date of accident.	Number of accident.	Name of Person.	Occupation.	Age.	Married.	Number of orphans.	Name of Colliery.	Location.	Nature and Cause of Accident.
Oct. 22,	170	James Harrington, ..	Miner, ...	57	M.	3	East Boston shaft, ...	Kingston township..	Head and arm cut and bruised by a premature blast.
23,	171	Martin Machutis, ...	Laborer, ...	23	S.	....	Stevens shaft, ...	Exeter, ...	Skull fractured and leg broken in two places by a runaway car.
24,	172	Stanley Owens, ...	Mason's helper,	15	S.	...	Exeter outside, ...	Exeter, ...	Arm broken; he fell off an engine bed.
26,	173	Mike Lander, ...	Miner, ...	27	M.	....	Louise tunnel, ...	Luzerne.	Face burned by powder while forcing cartridge in a hole.
26,	174	John McMillan, ...	Miner, ...	24	M.	....	Stevens shaft, ...	Exeter, ...	Back bruised by fall of rock.
26,	175	Joseph Brady, ...	Plane runner, .	23	M.	....	Midvale slope, ...	Plains, ...	Ankle sprained while barring drum loose.
27,	176	Anthony Kavlavish...	Laborer, ...	27	M.	....	Babylon shaft, ...	Duryea, ...	Leg painfully bruised by fall of rock.
28,	177	Anthony Natvitze, ..	Laborer, ...	30	M.	....	Laflin shaft, ...	Laflin, ...	Painfully bruised and cut by blast blown through pillar.
30,	178	Anthony Makoski, ...	Miner, ...	....	M.	....	Babylon shaft, ...	Duryea, ...	Foot bruised by coal flying from a blast.
Nov. 7	179	Wm. Engle, ...	Door boy, ...	15	S.	....	Prospect shaft, ...	Plains township, ...	Collar bone broken by falling.
9,	180	Cornelius O. Boyle. ..	Driver, ...	17	S.	....	Pettebone shaft, ...	Kingston township..	Leg painfully bruised; his foot caught in rail.
10,	181	John Vynick, ...	Runner.	23	S.	....	Maltby shaft, ...	Maltby.	Squeezed between car and sheave wheel.
10,	182	Paul Flynn, ...	Driver, ...	18	S.	....	Schooley shaft, ...	Exeter, ...	Injured by car jumping the track on him.
11,	183	Chas. G. Banla, ...	Miner, ...	50	M.	2	Maltby shaft, ...	Maltby, ...	Back bruised by fall of rock.
12,	184	Joe Valenchis, ...	Laborer, ...	30	S.	....	Clear Spring shaft, ...	Pittston, ...	Slightly injured by fall of rock.
13,	185	Conney Smith, ...	Laborer, ...	30	S.	....	Stevens shaft, ...	Exeter, ...	Ribs fractured by fall of rock.
14,	186	John Sonovich, ...	Laborer, ...	35	M.	4	Ravine shaft, ...	Pittston, ...	Foot painfully bruised by fall of rock.
21,	187	Vincent Klushank, ...	Miner, ...	38	M.	2	Midvale slope, ...	Plains, ...	Head severely cut; went back too soon to a blast he thought had missed.
27,	188	Andrew Gupo, ...	Miner, ...	33	M.	3	Harry E. shaft, ...	Forty Fort, ...	Severely injured by fall of rock.
27,	189	Anthony Brasich, ...	Laborer, ...	29	S.	....	Harry E. shaft, ...	Forty Fort.	Leg broken by fall of rock.
Dec. 5,	190	Thos. Parnel, ...	Laborer, ...	30	M.	....	Butler shaft, ...	Pittston township. ..	Eye knocked out by premature blast.
7,	191	Michael Toy, Jr., ...	Brakeman, ...	18	S.	....	Laflin outside, ...	Laflin, ...	Leg broken; fell off the locomotive.
9,	192	Enoch Gallagher, ...	Car loader, ...	20	S.	....	Butler breaker, ...	Pittston township. .	Painfully bruised while coupling cars.
11,	193	Joe Bitness, ...	Laborer, ...	34	M.	2	Mount Lookout shaft...	Wyoming, ...	Slightly injured by a fall of rock.
11,	194	Martin Yancoskie....	Laborer	35	M.	4	Mount Lookout shaft...	Wyoming.	Leg broken by a fall of rock.

11.	195	Thos. Rachford,	Miner	52	M.	6	Phoenix shaft,	Duryea,	Ribs broken by having been struck by car.
12.	196	Mike Mendulish,	Driver	19	S.		Pine Ridge shaft,	Miners Mills,	Leg broken by piece of rock falling on him.
15.	197	Anthony Macowski,	Miner,	28	M.	2	Babylon shaft,	Duryea,	Shoulder bruised while barring down coal.
15.	198	Thos. Durkin,	Miner,		M.	4	Laurel Run slope,	Parsons,	Severely injured; went back to a blast he thought had missed.
16.	199	Mike Lukavitch,	Laborer	20	S.		Prospect shaft,	Plains,	Head cut by fall of rider coal.
18.	200	John Poatik,	Laborer,	44	M.	5	Langcliffe shaft,	Avoca,	Arm broken by having been caught between car and prop.
19.	201	Anthony Taleskie,	Miner,	39	M.	1	Mount Lookout shaft,	Wyoming,	Painfully cut and bruised by a premature blast.
21.	202	Joe Tanner,	Driver,	17	S.		Pine Ridge shaft,	Miners Mills,	Fingers crushed by a hook of stretchers while hitching mule to car.
22.	203	Thos. Cummings,	Breaker cleaner,	17	S.		Phoenix breaker,	Duryea,	Arm crushed; fell in cog wheels, necessitating amputation.
23.	204	Mike Dander,	Miner,	26	M.		Exeter shaft,	Exeter,	Severely bruised by fall of rock.
24.	205	Joe Yesolitus,	Miner,	23	S.		Langcliffe shaft,	Avoca,	Breast cut and bruised by coal he was bearing down.
29.	206	Mike Slavick,	Miner,	50	M.	5	Maltby shaft,	Maltby,	Back bruised by fall of rock.
31.	207	John L. Evans,	Door boy,	17	S.		Pettebone shaft,	Kingston township	Severely injured by a fractious mule
31.	208	Thos. Peifer,	Plane runner,	25	M.		Pettebone shaft,	Kingston township	
31.	209	Anthony Picknick,	Laborer	32	S.		Ravine shaft,	Pittston,	Arm broken by fall of rock.

FOURTH ANTHRACITE DISTRICT.

(LUZERNE COUNTY.)

Wilkes-Barre, Pa., March 6, 1897.

Hon. James W. Latta, Secretary of Internal Affairs:

Sir: I have the honor herewith of presenting my sixteenth annual report as Inspector of Mines for the Fourth Anthracite district.

It contains the usual tables, giving the names of the different mines, their operators, and the names of the superintendents, the quantity of coal produced, quantity consumed at the mines, quantity of local sales and quantity of coal shipped to market, number of days worked, number of employes and number of persons killed and injured. It also contains articles on several topics relating to the mines of this district.

I have omitted the usual list of the names of the persons non-fatally injured, knowing that it is of no service, as the greater number were convalescent and at work again before the report was transmitted. Their number is given for each month, and their occupation and nationality is recorded.

The mines are maintained in their usual good condition, excepting those that are in a damaged condition by reason of fires. They worked an average of only 150.11 days. Accidents are more numerous in proportion to the time worked when working intermittently, than when the employment is continuous. This is caused in part because idleness incapacitates the men, and the roof and other part of the mines seems to deteriorate more rapidly while not in operation.

Very respectfully yours,

G. M. WILLIAMS,

Inspector.

Total Production of Coal in Tons During the Year 1896.

Lehigh and Wilkes-Barre Coal Company,	1,963,199.11
Delaware and Hudson Canal Company,	1,239,418.11
Susquehanna Coal Company,	1,315,951.03
Kingston Coal Company,	778,457.08
Delaware, Lackawanna and Western Railroad Co.,	676,669.13
Lehigh Valley Coal Company,	344,839.05
Red Ash Coal Company,	261,940.13
Parrish Coal Company,	303,773.06

Alden Coal Company,	237,768.04
Plymouth Coal Company,	167,645.04
West End Coal Company,	186,404.00
Hillman Vein Coal Company,	77,619.00
A. J. Davis Warrior Run Colliery,	162,864.17
Hadleigh Coal Company,	57,503.14
Lee Coal Company,*	5,323.10
Melville Coal Company,*	39,516.18
Reynolds and Moyer Coal Company,	95,145.09
Kidder Coal Company,	47,985.00
Wyoming Coal Company,	55,826.15
Total,	8,017,852.01

The above total production of coal is made up as follows:

Shipped by rail to market (tons),	7,092,482.06
Local sales at the breakers (tons),	217,656.15
Consumed at the mines, estimated, (tons),	707,713.00
Totals (tons),	8,017,852.01

Number of Fatal and Non-Fatal Accidents and tons of coal produced per life lost, and per person seriously injured.

Name of Operators.	Number of lives lost.	Tons of coal produced per life lost.	Number of persons seriously injured.	Tons of coal produced per person seriously injured.
Lehigh and Wilkes-Barre Coal Company,	21	93,485	63	31,161
Delaware and Hudson Canal Company,	8	154,927	13	95,339
Susquehanna Coal Company,	8	164,493	38	34,630
Kingston Coal Company,	9	86,495	13	59,881
Delaware, Lackawanna and Western Railroad Company,	6	112,778	37	18,288
Lehigh Valley Coal Company,	5	68,967	9	38,315
Red Ash Coal Company,	1	261,940	4	65,485
Parrish Coal Company,	1	303,773	16	18,985
Alden Coal Company,	4	59,442	12	19,814
Plymouth Coal Company,	1	167,645	.....	.....
West End Coal Company,	3	62,134	3	62,134
Hillman Vein Coal Company,	1	77,619	9	8,624
A. J. Davis Warrior Run Colliery,	2	81,432	4	40,716
Crescent Coal Company,	2	28,751	.....	.....
Lee Coal Company,	.....	.....	.....	.....
Melville Coal Company,	.....	.....	2	197,58
Reynolds and Moyer Coal Company,	.....	.....	2	47,572
Kidder Coal Company,	.....	.....	.....	.....
Wyoming Coal Company,	1	55,826	.....	.....
Total,	73	109,833	225	36,079

* Same colliery; proprietorship changed. Number of widows, 34; orphans, 134.

Number of persons employed by each company and number of employes per life lost and per person injured.

Names of the Operators.	Number of persons employed.	Number employed per life lost.	Number employed per person injured.
Lehigh and Wilkes-Barre Coal Company,	7,204	343	114
Delaware and Hudson Canal Company,	3,679	460	283
Susquehanna Coal Company,	4,178	522	109
Kingston Coal Company,	2,439	271	187
Delaware, Lackawanna and Western Railroad Company,	2,123	354	57
Lehigh Valley Coal Company,	1,235	247	137
Red Ash Coal Company,	783	783	195
Parrish Coal Company,	1,061	1,061	66
Alden Coal Company,	778	194	64
Plymouth Coal Company,	471	471	.....
West End Coal Company,	557	185	185
Hillman Vein Coal Company,	280	280	31
A. J. Davis, Warrior Run Colliery,	403	201	100
Crescent Coal Company,	303	151	.....
Lee Coal Company,*	.....	.....	.....
Mellville Coal Company,*	229	.....	114
Reynolds and Moyer Coal Company,	294	.....	147
Kidder Coal Company,	21	.....	.....
Wyoming Coal Company,	21	21	.....
Total,	26,059	357	116

* The same colliery; the first sold to the second company.

There are 39 shafts, 15 slopes and 6 tunnels which produce coal in this district, and it is prepared by 42 breakers and 3 washeries. In a few of the slopes and in all of the shafts the workings are deep, varying from 500 to 1,600 feet beneath the surface. All the workings at these depths are dry, dusty and exceedingly gaseous.

The volume of air required to dilute the dangerous gases and keep the workings in safe condition is from 80,000 to 300,000 cubic feet per minute. This must be circulated incessantly day and night before the mines can be regarded as safe. The ventilation is produced by fans varying in diameter from 16 to 35 feet, running at rates of speed of from 45 to 85 revolutions per minute. The ventilating pressure varies at different mines from one to three inches of water gauge. The airways are generally large and the volume of air is divided into from four to twelve splits, so that the friction is reduced to the smallest degree advisable. In some of the mines a volume of 40,000 cubic feet of air per minute is required to dilute the gases in some of the splits. In all such places, safety lamps exclusively are used, and high explosives are used for blasting, and the blasts are exploded by electric batteries and electric exploders. At the most gaseous mines, auxiliary fans are provided, each having a capacity equal to the operating ones, and they

are operated alternately every other week, so that if one is damaged the other can be put in motion in a few minutes and so maintain the air currents. All the fans at gaseous mines are provided with automatic recording instruments, showing the pressure maintained at all times, both day and night. Only a few of the mines of this district have less than 100 working places, and in the others there are from 100 to 285, and in each there are hundreds of worked out or abandoned places. It requires a walk of from 8 to 40 miles to visit each working place of one mine, and much of that is over rough, uneven ways, being no more than four feet in height. In the whole district there are 5,000 places working by day, and for a person to visit them all, it would require at least 600 miles of walking and fully one-fourth of that distance in a stooping posture by the light of a safety lamp, and much of the distance on steep slopes, ladders and pitching places.

Supervising these places and devoting their whole time to seeing that the work is properly and safely done, there are 21 superintendents, 68 mine foremen and about 200 assistants and fire bosses. Every working place is examined and tested with the safety lamp by the fire bosses and is ascertained to be safe before the miners and laborers are permitted to enter in the morning, and these places are examined again while the miners are at work. About 1,800 brattice and timber men are employed to put up doors and brattices for the purpose of directing the air currents to the faces and in putting up timber to secure the haulage and traveling ways from danger.

The Mine Inspector, in order to examine these mines and keep himself posted in the progress of the workings, has walked an average of from 800 to 1,000 miles a year inside of the mines. Much of this walking was useless, because the changes caused by a work of six months is hardly perceptible. When a mine is opened properly and the system and quantity of ventilation is established and the method of timbering, tracklaying and hauling is fully started, the Mine Inspector does not often have cause to complain. In all mines, no matter how well they are planned and conducted, danger constantly exists. In my experience of more than sixteen years as mine Inspector of this district, of the thousands of accidents that occurred during that time, not more than half a dozen occurred because the mine or part of it was not in lawful condition. In nearly all the cases the law does not and cannot be made to apply. Intelligence, the education of experience, accurate judgment, and the power to enforce rigid discipline, cannot be implanted in men by legislative enactments. Accidents in mines nearly all occur owing to the lack of these very essential qualities in mine employes. Most mine foremen are good disciplinarians, but it is just as essential that every

driver boss, every fire boss and every man who has supervision over other men should have these characteristics. Efforts are made to employ such men and the best that can be found are employed, and yet there are hundreds of men employed in the mines who are not fit for the positions.

The Accidents of 1896.

Seventy three fatal, two hundred and twenty-five severe non-fatal, and eighty-one very slight accidents occurred in this district during the year 1896.

This is, strictly speaking, the number of persons killed or injured by accidents. In several instances two or more persons were the victims of one accident. I have nothing new to state as to cause of accidents. The comments in past reports would be just as applicable and appropriate on the accidents of this year. Not one occurred owing to an illegal condition of the mines prior to the accident, but all occurred in consequence of the mistake, oversight, error of judgment or indifference of those who suffered. The accidents are classified as follows:

Causes of Accidents.	Fatal.	Non-fatal
By explosions of firedamp,	14	66
By falls of roof and coal,	25	59
By falling down shafts,	3	..
By mine cars inside of the mines,	12	46
By explosions of powder and blasts,	9	14
By miscellaneous causes, inside,	5	27
By miscellaneous causes on surface,	5	13
Total,	73	225

The eighty-one very slight injuries are not classified in the above table.

When we consider the enormous quantity of explosive gases exuded in the mines of this district and that fully 90 per cent. of the workmen use naked lights, also that a considerable proportion of the men are ignorant and inexperienced, it is surprising that the accidents are so few, and it speaks well for the care of the foremen and fire bosses.

If a light could be devised that would not ignite explosive gases and that would give a light as intense as the light of a naked lamp this class of accidents could be reduced to a very small number. As it is, the safety lamp is an awkward instrument to handle and its light is less than one-eighth of that of the open oil lamps, and it is doubtful whether the number of casualties would be reduced if the workmen were all compelled to work by safety lamps, because the

light is so feeble that danger from loose rock and coal could not be so easily discovered. However, if all the workmen would use the well known precautions we would have few casualties of this class to record.

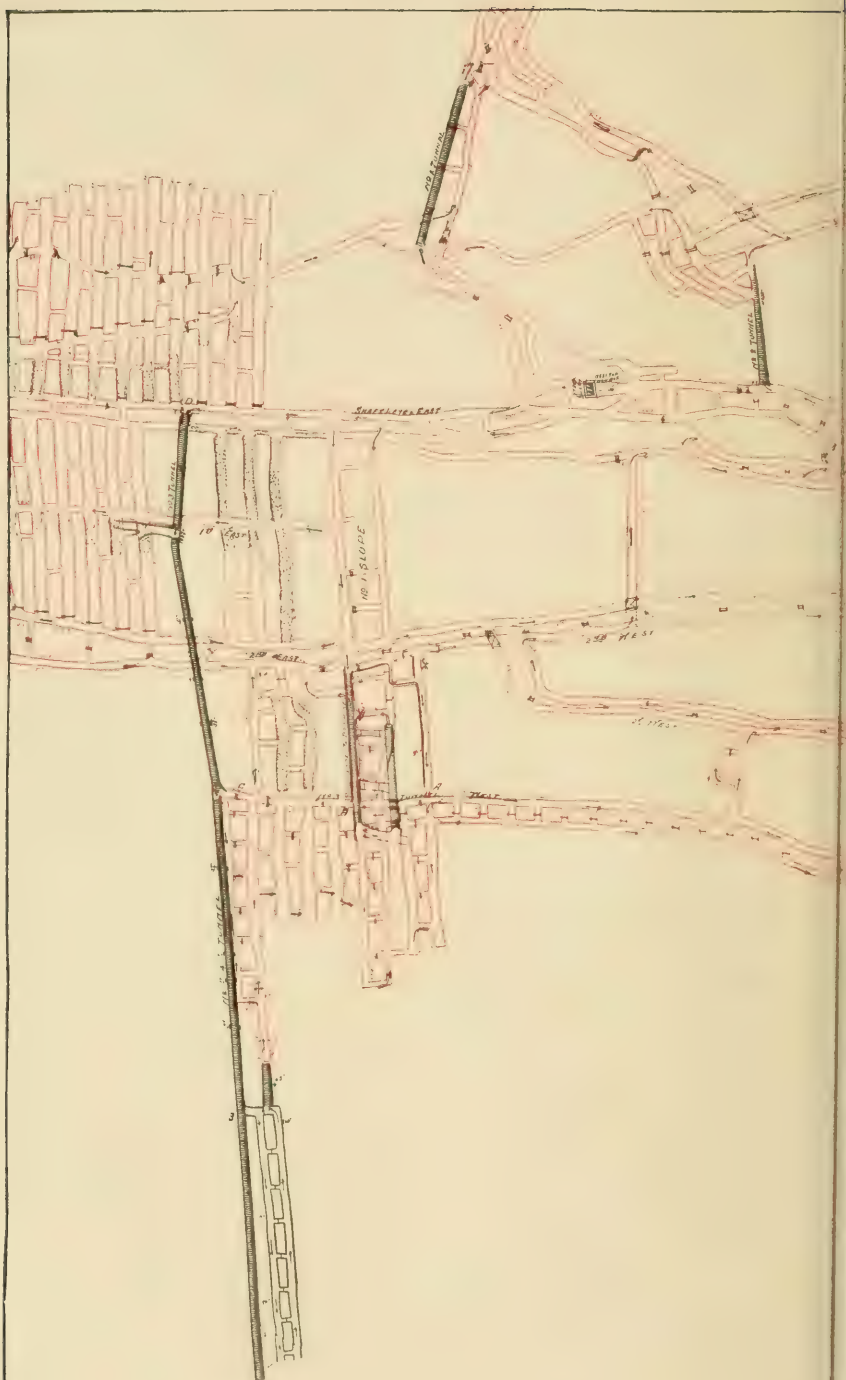
With the care taken by the officials in these days the accidents from falls of roof and coal can only be averted by the care of the workingmen themselves, more especially the miners. They and their laborers are most frequently the victims of this class of accidents, and only by vigilance and care on their part can they be reduced. The same remarks apply to the other classes of casualties, so that it is not necessary to repeat them here.

A Disastrous Explosion in the South Wilkes-Barre Mines.

A few minutes after one o'clock, Thursday afternoon, October 29, an explosion of fire damp occurred in the No. 3 shaft, South Wilkes-Barre Colliery, of the Lehigh and Wilkes-Barre Coal Company, which instantly killed four men, and shortly after, the assistant foreman and one of the fire bosses lost their lives by inhaling after-damp while endeavoring to go to the rescue of the others. A map of that section of the mine is presented in this report to assist the reader to understand the conditions which existed prior to the accident.

This colliery is opened by two shafts which are sunk to the "Baltimore" seam and are 650 feet apart. The main shaft is the No. 5, through which the coal of the Baltimore seam is hoisted. Part of this shaft is partitioned off for an upcast, over which two 35-foot fans are located, which are operated on alternate weeks. The hoisting compartments are also a downcast for the greater part of the air for ventilating the Baltimore seam. The No. 3 shaft is all a down-cast and is also used to hoist the coal of the Hillman seam. The accompanying map shows a section of the Hillman seam workings which was the scene of the accident. The No. 3 tunnel was driven across a basin through the top rock from the east level gangway at "D" cutting the same seam on the other side of the basin at "C." From this point the "No. 4" tunnel, a continuation of No. 3, was driven in the bottom rock, cutting the Stanton seam at "E," and is continued still further, intending to cut a still lower seam.

It is an exceedingly gaseous mine. The split of air passing in through these tunnels, when measured during the last week of October, was 27,160 cubic feet per minute. Gas feeders had been cut in the Stanton seam which charged the air current to a dangerous condition, and work in all this part of the mine was suspended for several weeks prior to the accident in hopes that the gas would become exhausted. Finally the officials decided to split this air current at "C" and send the part contaminated by gas,


Sheffield Road
10 Slope
2nd East
2nd West
Main

over a bridge to be made across the No. 3 tunnel west gangway at "A" and down to the return airways at the bottom of the basin. The passage leading up from "H" to "A" was driven and broken through to the tunnel west gangway on the day before the accident.

They had to blast top rock down to make room for the bridge, and four men worked all night enlarging the hole and blasting the top rock down and a fire boss was with them. On the day of the accident the colliery was idle and only the men at this work and those loading and unloading the rock were working in that seam. They were using 50 per cent. dynamite to blast and were firing with an electric battery. Before blasting they were instructed to open the door at C so as to permit the air current to make a short circuit through the breasts and clear out the gas, so as to make sure that it was safe before blasting; all worked by the safety lamp.

Thomas Owens, William T. Lacey, James Herron and Robert Lloyd were working there, and Joseph Worth, fire boss, was sent to remain with them and to see that everything was safe in the vicinity before they should blast. There were two men at "H" loading the rock out. At about 10 A. M. the mine foreman, John F. Jones, visited them and found the work progressing all right.

Shortly before one o'clock they were getting ready to explode a blast and Robert Lloyd was sent around to call the two men at H back to a safe position. He did so, and the three were together at the foot of the slope when the blast was fired, and instantly they were blown about by the concussion of an explosion of gas. John F. Jones, the mine foreman, was on the surface when he saw a cloud of dust and debris blown up the two shafts. He at once ran over to the No. 3 shaft and accompanied by William R. Jones, the fire boss, who happened to be coming towards the shaft, and John D. Davies, a mason, descended the shaft. At the bottom, John D. Joseph, assistant foreman, joined them. All used safety lamps. The foreman and Davies went to examine if a wall near by had been blown away. While Joseph, followed by Jones, went in past the head of No. 1 slope to the entrance of No. 3 tunnel. Unexpectedly they encountered the after damp and Jones, feeling its effect, called for help. Just then the mine foreman and Davies were approaching and both assisted Jones back a short distance, when they also became weakened and both Jones and Davies fell. The foreman managed to reach the bottom of the shaft where the air was pure. Then the three men who were in the slope came out, and other help from surface came down and they carried Jones and Davies out; both were unconscious. Davies soon revived, but Jones died. Every effort was made by several physicians to resuscitate him, but they proved unsuccessful. The body of the assistant foreman, J. D. Joseph, was found lying in the gangway at "D."

The afterdamp filled the gangway back to the shaft and was followed by explosive gases. The explosion damaged about 400 feet of the brattice partition in the No. 5 shaft and all the ventilation found a short circuit to the fan, leaving no ventilation for the workings of either seam. Streams of water were poured down both shafts, which produced a current of air. There were about 30 men working in the Baltimore seam and they were hurried out through the No. 1 air shaft, a mile and a half southwest of the colliery. As soon as they reached the surface the top of No. 5 shaft was covered with boards and canvas and thus the air was compelled to enter shaft No. 3. The workings of both seams had by this time, filled with explosive gases. It was explosive back to "D" in the No. 3 tunnel. The air current was forced entirely into this tunnel and in a few minutes the gas was swept out from that passage, thus enabling the rescuers to follow into the tunnel. The body of William Lacey was found near the door at C and the door was blocked open, showing that they had complied with the instructions by opening this door before blasting. The bodies of the other three, viz: Thomas Owens, James Herron and Joseph Worth, were found lying on the gangway at B. Evidently, not one had moved from the position he was thrown into by the terrible explosion of the blast. They were not severely burned, but appeared to have been killed by the tremendous pressure of the explosion and its resulting afterdamp. They were all good, reliable and experienced workmen. No one can tell what the conditions were when they fired the blast nor how the gas was ignited. It was between six and seven o'clock P. M. when the bodies were recovered. It was an anxious time when such a large body of explosive gas was being forced out, while the adjacent workings of both seams were also full of gas, and no means of ascertaining whether the explosion had left anything on fire or not. Fortunately, nothing further happened.

The Serious Consequences of the Explosion at the No. 3 Shaft, South Wilkes-Barre Colliery.

The preceding article in this report describes the explosion and its fatal consequences. All felt relieved when the bodies were recovered on the night of the acident and in finding no evidence of fire. The first work required was to repair the brattice between the down-cast and up-cast in the No. 5 shaft, so that the ventilation could be restored. The effect of the explosion on the stoppings and doors of the mine could not be ascertained on account of the large volume of firedamp that had accumulated, and this could not be removed until the ventilation was re-established.

A gang of men commenced to repair the brattice in the shaft on Friday morning and the work was continued until 10 P. M. Satur-

day, October 31. Fortunately all the men were on top of the shaft preparing material for the work, when another explosion occurred, lifting the boards and canvas that covered the shaft. This was reported to the officials at once and the repair work was suspended. The fire bosses descended the No. 3 shaft and went in as far as the tunnel and found everything as it was left on Thursday night. The cages in No. 5 were damaged and could not be used. The situation was grave and exceedingly uncertain. The ventilation could not be restored without repairing the brattices in the shaft. The explosion was undisputed evidence of the existence of a fire somewhere in the mine, and the workings were known to be full of explosive gases, and if an explosion should occur when the men were working on the brattice in the shaft it would most certainly cause their death. It required more than ordinary courage to attempt to make an examination of the workings, but on November 2 the fire bosses went down the No. 3 to the bottom seam and made an examination in the vicinty of the two shafts but saw no evidence of an explosion having taken place in the Baltimore seam. From there they ascended into the Hillman seam and went into the return airway but failed to detect any evidence of fire in the air returning from the seat of the first explosion. It was too dangerous for them to stay long, so they returned to the surface and made their report. The officials and the Inspector were present, and it was decided to wait a few days for further developments. The fire boss descended No. 3 again on November 5 and found indisputable evidence that fire was burning in the Hillman seam. The return air currents coming from the region of the first explosion was highly charged with the smoke and gaseous products of the fire and it was decided to flood the No. 1 slope workings in the Hillman seam as soon as practicable, and streams of water were at once turned in.

On November 7 another explosion took place, lifting the covering on the No. 5 shaft and the smoke and dust came out through the fan. It was expected that in a few days the water would cover the region of the fire, and it was decided to wait until that was effected.

The water having filled the slope workings to the required height by November 21, the fire bosses descended to the Baltimore seam and finding that a small current of air was passing up the inclined planes, they went up and at the head of the planes they saw evidences of a terrific explosion having taken place there. The stoppings and doors were blown away and the cars were blown to pieces, and they believed that they smelled fire. It was an awful situation for men to be in and they were naturally timid. They returned to the surface and made their report. This had a depressing effect upon everybody connected with the mine. The workings of the Baltimore are very extensive and at this time they were nearly

all filled with fire damp. This could not be cleared without a strong air current and the ventilation could not be forced in unless the brattice in the shaft was repaired, and the very act of forcing air in would, most probably, carry the gas to the fire and cause such an explosion as would utterly ruin the mine and its ventilating appliances. Another examination was made on November 23. All the officials and the writer were at the colliery and indisputable evidence of the existence of fire was obtained. Seeing that it was useless to permit any more risks to be taken it was decided to flood the Baltimore seam workings with water to the necessary height for filling the whole workings and measures were at once taken to put this into effect, and no more men were allowed to enter the mine.

By December 10 the water had risen so as to seal the bottom of both shafts, so that it was safe to work at repairing the brattice. While connecting a broken pipe one of the workmen received an electric shock and noticed sparks. There being fire damp near, they ascended the shaft and reported it. Subsequently the electrician of the traction company was sent for and he found that a potential of 4 volts and a current of 12 ampieres was in the pipes leading down into the shafts. This electric current was leaking from the current of the Traction company, which was regarded very dangerous for a gaseous mine. An insulator was put in one of the joints of each pipe on the surface to prevent the electric current following into the mine and this proved effective.

At this writing the workings are filled to the required height of 205 feet and the water is being hoisted out. The water is all out of the Hillman slope and the location of the fire was found to have been on the second west gangway. Both the second west and two and one-half west gangway were damaged by the explosions and by falls brought down presumably by the effect of the water on the fireclay roof.

An Explosion of Gas and Fire at the Franklin Colliery.

At 12.30 P. M., Saturday, August 15, Fire Bosses John Flynn and William Tredinnick, accompanied by Joseph Hughes, James Monaghan and William N. Thomas, went into the old workings west of No. 1 slope in the Baltimore seam to make a change in the arrangement of the ventilation. They were told to use safety lamps, but ignoring the instructions, they all carried naked lights. Flynn, taking Hughes with him, went some distance away from the others and on breaking down an old brattice stopping, he ignited a body of gas which burned him and Hughes severely and set some old timber on fire. Flynn died on August 17. They had a large force of men for about two weeks endeavoring to extinguish the fire, when it became too dangerous and it was decided to isolate the old workings west of the slope and flush culm enough in to fill it. All the

openings on the side of the slope were closed and a hole was bored down from the surface and culm and water was flushed in. In a few days after closing the openings the air became so mixed with incombustible gases that lights were extinguished and then it was considered safe to work in the other parts of the mine.

This is another instance where recklessly using naked lights where common usage suggested the necessary precaution of using only safety lamps, caused the death of the one who was responsible and also caused an endless amount of trouble and expense. It has been demonstrated in this district many times that it is a good rule to not permit a fire boss to carry a naked light at any time, because he is more inclined to take chances than any other employe, owing to his familiarity with the mine.

The Fire in the Conyngham Mine of the Delaware and Hudson Canal Company.

In my report for the years 1891 and 1892, an account of the fire in this mine was given. At the close of the year 1892 the mine was filled with water to a height of 346 feet. Since then it has been pumped out and in the latter part of 1895, finding that all the workings had caved under the effect of the water, the operators put a force of men to clean and re-open the gangways and second opening. An examination of the workings on the head of the gravity plane revealed that the temperature was still several degrees higher than the normal. It could be seen where this heat came from but those parts of the workings were all caved and could not be examined. By the middle of February, 1896, the heat was becoming more intense and the gaseous products of fire began to appear in the returns. Efforts were made to effect openings, so that it could be determined positively that fire was existing.

On August 19 the Mine Inspector, accompanied by Mine Inspectors Hugh McDonald, of the Third district, and Edward Roderick, of the First district, made an examination and were convinced beyond doubt that the caved part of the workings east of the head of the plane was on fire and so reported to the company. The Inspector received a notice on August 24 that the pumps were stopped and that it was decided to fill the mine with water to a height of 400 feet.

By January 13, 1897, the water had filled to a height of 313 feet and the Inspector being apprehensive of danger to the employes of the Hollenbach colliery of the Lehigh and Wilkes-Barre Coal Company, from the pillar between the two collieries giving way under the pressure, notified the officials of that colliery to suspend all work in the Hollenback shaft until the water in the Conyngham had reached the required height; they complied by suspending work the next day. (See map of the pillar in report for 1891.)

The Delaware and Hudson Canal Company had a hole bored from the surface to the highest point in the workings, so that the confined gases might escape. A second hole is being bored at present lest one might prove insufficient. The water was filled to a height of 394 feet, when it was concluded to be high enough.

A Fire and Narrow Escape of Men at the Baltimore No. 2, Delaware and Hudson Canal Company.

Between ten and eleven o'clock Monday morning, December 21, 1897, a blast ignited some strong gas feeders in the gangway leading from the bottom of the inside slope of this mine. The miners and others including the mine foreman and fire bosses did all in their power to extinguish the fire, but the water pipe (a newly laid one), did not deliver the water with sufficient force. The air current conveyed the smoke and gases produced by the fire through extensive old workings, and then through all the working places on the inclined plane, which sickened the men who were working on the planes. At about three o'clock P. M. some of the sick men managed to reach the bottom of the planes and reported that all the men were dying up there. The foreman, John Matthews, and two or three other men went up both planes and found one man lying on the gangway insensible. They picked him up, intending to bring him out, but feeling the effect of the poisonous gases, they had to drop him and make their own escape. The air was heavily charged with smoke and noxious gases and they concluded it to be too dangerous to permit anybody to go up the planes, and they resumed the efforts to extinguish the fire. At five o'clock the writer heard of the accident and repaired to the colliery promptly, and in a brief consultation with the officials he decided to split the air-current at a point between the fire and the plane workings, and send the smoke back over the fire into another air-split and send a fresh current up to the plane workings. The conditions were favorable and it was accomplished in about half an hour. The air on the plane improved in a few minutes, and having plenty of help, the men were all carried out alive, but unconscious. There were a number of physicians on the surface who succeeded in restoring all to consciousness. There were fourteen men carried out. One, Mike Kushinski, was very severely burned by his mining lamp setting his clothes on fire, and he died at the hospital a few days after. They were all found lying along the road between the head of the upper plane and their working places. All had fallen while on their way out.

The air current was restored to its former course immediately after the men were rescued. The following morning, after learning that several explosions of gas had occurred in the vicinity of the fire,

it was determined to flood the slope workings with water as soon as practicable and by this time it has been accomplished, but it will require several weeks to pump the water out and restore that part of the mine to working order again.

Caving-in of Mines in 1896.

Several of the mines of this district were more or less damaged by squeezes and caves-in during 1896. Fortunately no casualities to the workingmen occurred, because the officials, being sensible to the uselessness of trying to prevent them, kept themselves and their men out of the affected districts. When a squeeze is fully developed it is useless to try to stay it. The experienced man knows this, and does not risk the lives of his men, nor waste the money of the operator in any useless efforts to prevent what cannot be avoided. The only way of preventing caves-in is to leave enough of coal in the ground, as pillars, to support the superincumbent part of the earth. Where there is not enough it will certainly collapse or cave in. More than three-fourths of the mines of this region have had a cave of more or less extent in some part of its workings.

No one can tell how many pillars are enough and it is doubtful whether the efforts to sustain the overlying strata is as commendable and safe as if the coal was all mined out and the overlying rocks brought down in small areas. Millions of tons of coal have been irretrievably lost that could have been won by the latter method.

It is remarkable and worthy of attention that squeezes seem to begin in the centre of a wide span of old workings that have been abandoned for a long period. Some think the cause is that the pillars become weaker by chips of coal falling off, but it occurs also in seams where the coal does not chip off, and a more acceptable theory is that when the workings spread to an area of sufficient breadth, the weight at the centre becomes greater than the adhesiveness of the rocks at the face lines of the workings, and this weight proving greater than the central pillars can sustain, causes them to crumble and yield. The most effective measures for staying a squeeze is to fill the spaces between the pillars by flushing culm and dirt in and pack it so full that the pillars cannot spread apart and give way.

Many times it has been tried to stay a squeeze by timbering, but it has been successful only in a few instances and only when it is done promptly and vigorously when the squeeze begins.

Timbering has helped to prevent the spreading of the squeeze, when applied for the purpose of assisting large pillars which are some distance away from its centre, with the object of establishing enough resistance to break the overlying rocks and stay its progress. The men should never be allowed to work inside the limits of a squeeze. Their means of retreat should invariably be kept safe, and

they should always be withdrawn when it is seen that their work does not produce the desired effect, and this can at all times be determined several hours before the collapse or final cave-in occurs. In all the caves that occurred in this district during 1896 the men were all withdrawn long before the cave took place. Caves of more or less extent took place in each of the following mines:

In the old workings of the No. 5 colliery at Plymouth a squeeze started in the latter part of 1896 and extended into the workings of the Boston and afterwards into the workings of the No. 3 colliery. On account of this, the Boston and No. 3 were suspended during the month of January, and No. 3 worked only two days in February. Considerable damage was done to both mines, but No. 3 has been re-opened and is now in fair condition.

In July another squeeze occurred in the Baltimore seam workings of the Boston mine, east of the slope. This affected all the work in that seam. The workmen were all withdrawn and they have done no work in that seam since, but they can mine the remaining coal again when needed. In the early part of February a squeeze appeared in the old workings of No. 5 Plymouth which extended down into the workings of No. 2 and affected the two seams. It did considerable damage to the openings, and the company concluded to leave all stand for the present and sink the shaft to the Red Ash seam. They have not shipped any coal from there since April, 1896.

In the Hillman workings of the Conyngham mine the damage done by a squeeze in 1895 was repaired ready for work in the latter part of January, 1896, but it recommenced in July and affected the upper seams so that they did not get in condition to mine coal up to the end of the year.

For the first three months of the year a squeeze was in progress in the workings west of the planes in the Empire mine, but it abated without doing much damage, although quite a large area had closed in. In the latter part of November another squeeze took place in the workings east of the planes. This required the suspension of all work on the planes for the remainder of the year and has caused great loss to the company and the workmen.

The Method of Mining in this District.

The method or system by which the largest quantity of coal can be extracted from a given area of land with the greatest degree of safety to the employes and at the least cost is the desideratum in every coal field.

Coal is too valuable to leave in the earth if it is practicable to extract it. The plan or system which enables the miner to extract the largest quantity, per acre of land, with equal degree of safety is certainly the best and most economical method.

There are two distinct methods of mining in practice at present in the coal mines of the civilized world, and there are endless modifications of each of the two systems. They are designated by the terms "Long Wall" and "Breast and Pillar." The oldest is the "breast and pillar," but it has been largely superseded by the "long wall" method in the coal fields of England and in the bituminous coal fields of the United States. "Long wall" may be defined as a system of mining in which the whole of the coal seam is extracted at one working or advancing, and the roof and overlying rock are sustained by wooden cogs, stone walls and packing in of the waste.

The "breast and pillar" may be defined as any system of mining in which a part of the coal deposit is left unmined as pillars to support the roof and overlying strata until the mine or a part of it is finished by advancing. Then the pillars are worked backwards from the inner points and the roof is allowed to fall and cave in.

The method of mining should be determined for each mine upon a careful study of its conditions and of the thickness and quality of the coal seam, its relation to other seams, the direction of the cleavage, the quality of top and bottom rocks and the direction of the breaks and seams in the top rocks.

The two named systems gradually merge into each other until it becomes difficult to say to which system some of the methods belong.

In the Anthracite region of the State of Pennsylvania, the method in practice is distinctly a modification of the breast and pillar method, and in one respect its application is peculiar to this region, in that it aims to support the superincumbent strata until the advancing workings of the entire mine are finished and at the same time leave only as much coal in the pillars as is thought necessary to sutain the overlying rocks. Inasmuch as there is no reliable rule discovered to determine the required size of pillars, the whole system has at all times been and is still in an experimental stage. The result has been that nearly all the mines have had caves-in of more or less extent before the time for working or robbing the pillars has arrived. Millions of tons of coal have been irretrievably lost and hundreds of thousands of dollars have been spent on account of caves-in and in three cases deplorable calamities and loss of lives of the workmen have been caused, all of which are due chiefly to this peculiar application of the "breast and pillar" method of working. All caves-in give ample warning of their approach by squeezing and crushing of the pillars, sometimes months before, at other times for weeks, and in all cases for many hours before the collapse, and only where there has been gross indiscretion have men been caught under them.

Various modifications of the breast and pillar method are prac-

ticed in this district. New ones are introduced in nearly every new mine, but all are adapted with the view of sustaining the overlying rock and preventing caves-in until the proper time for robbing the pillars has arrived.

In many parts of this valley the conditions on the surface make it absolutely necessary that the strata should not be disturbed. The Susquehanna river is a large stream and its bed, as well as its wide shores, have deep quicksands. The depth of sand varies from nothing to a depth of 310 feet, and workings under this, have to be directed with the greatest care. Nearly all the workings of the different mines are connected at some point, and it is of importance for all that the water from the river should not find its way in. Hence it is necessary that the pillars shall be of sufficient strength to keep the strata from sinking at any point in the vicinity of the river. The first method of working the breast and pillar in this coal field was introduced about sixty years ago, where the coal seams were not deep. The breasts were ten yards wide and the pillars five yards, but very often the breasts would infringe upon the pillar and make the size less, and the breasts were all opened from a single gangway.

When the mine law of 1870 was enacted requiring that all mines should be properly ventilated, it was found necessary to drive an airway parallel with the gangway so that there should be a barrier of coal between the intake air-current and its return. This was an important improvement, for it enabled the operator to conduct the air-current to the inner point of the workings without loss. In the most shallow workings this method proved satisfactory, but in deeper workings, after they became extensive, the pillars proved too small, and all caved in before the pillars were worked. In deeper workings a little larger pillars with narrower breasts were adopted with the same result. This method is in practice at many mines at present but a greater effort is being made to drive the breasts parallel, so that the pillars may be of uniform size throughout the mine.

The second method of applying the breast and pillar working is to work a series of about ten breasts having pillars of the ordinary size between; then to reserve a large pillar about 150 feet wide as a barrier to prevent a squeeze from spreading over. This application of the method was introduced about ten years ago and has been in part successful, yet there are several instances where large caves have occurred despite these large reserve pillars, especially where more than one seam has been worked.

The third application of the "breast and pillar" is to drive the working places all as nearly as practicable not over seven yards

wide and fifty feet long, and a pillar fifty feet square is reserved. This method leaves large, strong square pillars which may be successfully robbed in the last working from the face backward.

The fourth application is to drive the breasts about 20 feet wide and leave a pillar between each, of not less than 36 to 40 feet wide. Where the last two methods are practiced no cave-in has yet occurred, although the workings are at a depth of over six hundred feet. The last method differs from the first only in that it has much larger pillars and a less number of crosscuts through them. The mines of this district are all worked by one or the other of these four methods of the breast and pillar.

Where there is nothing on the surface to cause damage to the workings by letting water or sand in, and where there are no valuable buildings to be damaged, I think a better plan of working the anthracite and many bituminous mines, would be to work the breasts forward as narrow as they can be worked without incurring extra expense and have the pillars from 30 feet up, proportional to the depth beneath the surface, and as soon as a series of from 8 to 10 breasts should be driven to their termini, the pillars should be all worked out from the face backwards at the same time, and the props all should be taken out so as to allow the top to fall in behind. The pillars should be large enough to prevent the pressure of the overlying rocks from crushing them and should present resistance enough for the rocks to break at their ends. Thus the working "robbing" of the pillars would be done, while the tracks laid to work the breasts were in place, and there would be no danger afterwards of a general squeeze occurring, crushing the pillars and causing them to be lost and covered by caves-in. With this method, the upper seams should be worked first, and it would make no difference if the seams were near each other, for after the coal should be extracted from the uper seam and the overlying rocks brought to rest upon the floor, it would not be so liable to break through as it is when the pillars are left in.

Objections may be raised to this method on the supposition that explosive gases might accumulate in the fallen parts, but although large areas have caved-in in at least three-fourths of the mines where the coal has been crushed under, we have never had an accident from this cause, only when the squeeze is in progress or soon after the caves in occur. In the anthracite region the explosive gases seem to have been penned up in the coal; there is none in the rocks and after the coal is mined out there is no gas found. The ventilation should be so arranged that the abandoned part of the workings be in the return air current. This could be easily done with the last described method of working. This method would require intelligent management and should be adapted to each part of a mine according to the requirement of its existing conditions.

It is late to introduce it now, and yet there are a number of mines where it would be practicable to apply it. If the mines had been worked on this plan from the beginning, millions of tons of coal would have been saved that is now lost.

In the deepest parts of this coal basin it may prove impracticable to work the coal out on any application of the pillar and breast system. At a depth of fifteen hundred feet and upwards, no pillar can stand the pressure, and the fireclay bottom is not hard or tenacious enough to stand, even if the pillars would hold. This I expect will finally compel the adoption of the long wall method. When the floor and pillars fail, and walls packing and cogs become as effective, then the coal will be sent out and overlying strata will be allowed to gradually sink down and rest on the packing. The space in this report is not sufficient to discuss this question as fully as it should be, but enough is stated to indicate the methods now practiced in this district, and where they might be improved.

The Annual Examination of Applicants for Mine Foreman and Assistant Mine Foreman's Certificates.

The annual examinations were held in this district at the Union street school building, Wilkes-Barre, on May 1 and 2 and were continued for several days after at the office of the Mine Inspector. The board of examiners was G. M. Williams, Inspector of Mines, Edward Mackin, superintendent; Andrew McGeehan and Michael Chessney, miners.

Nineteen applicants appeared for examination for mine foreman certificates and the following named persons passed a satisfactory examination:

B. F. Cobleigh, Kingston.
Martin Brennan, Wilkes-Barre.
Walter James Symons, Wilkes-Barre.
James Featherstone, Wilkes-Barre.
Thomas A. Jones, Wilkes-Barre.
Robert Hindson, Ashley.
Patrick P. Virtue, Luzerne borough.
Thomas L. Richards, Plymouth.
John T. Humphreys, Plymouth.
Richard Jones, Edwardsville.

Forty-four applicants were examined and recommended for assistant foreman certificates.

The examination was concluded May 19, 1896.

Colliery Improvements During the Year 1896.

The coal trade was unusually lax, requiring work for less than two-thirds time; such improvements only as were urgently needed were made during 1896, and such as were made and had effect on the condition of the mines are recorded in the following:

Improvements by the Lehigh and Wilkes-Barre Coal Company.

In the Empire mine a rock plane on a rise of 25 degrees was driven from the Ross to Baltimore seam in the abandoned Diamond colliery. It is 10x10 feet area and 435 feet in length. It enables the ventilation to be improved and they can work the remainder of the coal in that part of the Diamond mine.

At the South Wilkes-Barre colliery the No. 4 tunnel was extended to a length of 1,200 feet. It is driven from the Hillman through an anticlinal to cut the same seam on the other pitch.

No. 2 slope was sunk and connected to the No. 1 air shaft, effecting a third opening by which the ventilation will be effectively improved.

At the Lance No. 11 colliery two short tunnels were driven from the Cooper to the Five Foot seam. Their lengths are 200 and 250 feet respectively, and they have sectional area of 7x12 feet.

Improvements by the Delaware and Hudson Canal Company.

At the No. 2 colliery the shaft was driven from the Bennett to the Red Ash seam on an extension of 273 feet, making the total depth of the shaft from the surface 859 feet.

Improvements by the Susquehanna Coal Company.

At the No. 1 shaft a rock tunnel was driven from the Lee to the Lee seam through an anticlinal. It is 600 feet in length and 8x16 feet area.

A rope haulage was installed in the Forge seam in place of a mine locomotive, which is a decided improvement to the quality of the air.

In the No. 4 slope and No. 2 shaft several minor improvements were made. A tunnel was driven from the Hillman to the Mills seam. It is 500 feet in length with 7x14 area. An extension was made to the No. 5 slope which added 600 feet to its length. Size, 7x14 feet, grade 11 degrees. An extension of 300 feet was also made to the No. 11 slope.

In the No. 6 colliery Glen Lyon, 5 new gravity planes were made, varying in length from 200 to 500 feet, and a tunnel was driven from the Twin to the Ross seam. It is 700 feet in length and 7x14 feet area

A compressed air locomotive was put in the No. 6 slope to haul the coal from the foot of the planes to the bottom of the slope. This is the second one put in at this colliery and they work very satisfactorily.

Improvements by the Kingston Coal Company.

In the No. 1 shaft a tunnel was driven from the Cooper to the Lance, having 8x12 feet area and 300 feet in length.

One gravity plane 600 feet long was finished and another is being made.

In the No. 3 shaft a tunnel was driven from the Ross to the Red Ash, 420 feet in length and 8x12 feet area.

Improvements by the Delaware, Lackawanna and Western Railroad Company.

In the Bliss colliery two new rock tunnels were driven; one 681 feet long, from the Ross to the Ross seam across a basin, and one from the Baltimore to the Baltimore seam 400 feet across the same basin. Both have a sectional area of 84 square feet.

The Auchincloss shafts were both sunk at the close of the year to a greater depth than any other shafts in this region. The No. 1 was at a depth of 1,719 feet and the No. 2 at a depth of 1,692 feet. Both will be completed during 1897.

Improvements by the Parrish Coal Company.

In the Buttonwood mine four new gravity planes varying in length from 300 to 800 feet were made. Three are in the Hillman and one in the Kidney seam. A slope is in progress of sinking on the Hillman to work the coal to the dip from the shaft. It was at a length of 240 feet at the close of the year.

Improvements by the Plymouth Coal Company.

The rock slope in the Dodson mine was extended from the Ross to the Red Ash seam, an extension of 298 feet. Size, 14x8 feet. Also, another rock slope for second opening 275 feet and 14x8 feet area. These slopes open the Red Ash seam for this colliery.

There were a number of short tunnels, gravity planes and other minor improvements made at a number of the mines, but they were of minor importance and so are not recorded.

Table No. 1.—Showing location, &c., of collieries in the Fourth Anthracite District.

Name of Colliery.	Name of Operator.	Location—Luzerne County.	Name of Superintendent	Postoffice Address.
1. Hollenback No. 2, ...	Lehigh and Wilkes-Barre Coal Company,..	Wilkes-Barre, ...		
2. Empire No. 4, ...	Lehigh and Wilkes-Barre Coal Company,..	Wilkes-Barre, ...		
3. Stanton No. 7, ...	Lehigh and Wilkes-Barre Coal Company,..	Wilkes-Barre, ...	Elmer H. Lawall, general manager; W. J. Richards, chief mining engineer; Morgan R. Morgans, inside superintendent; W. H. Herring, outside superintendent.	Wilkes-Barre.
4. South Wilkess-Barre Nos. 3 and 5, ...	Lehigh and Wilkes-Barre Coal Company,..	Wilkes-Barre.		
5. Maxwell No. 20, ...	Lehigh and Wilkes-Barre Coal Company,..	Ashley, ...		
6. Colliery No. 9, ...	Lehigh and Wilkes-Barre Coal Company,..	Sugar Notch, ...		
7. Lance No. 11, ...	Lehigh and Wilkes-Barre Coal Company,..	Plymouth, ...		
8. Nottingham No. 15, ...	Lehigh and Wilkes-Barre Coal Company...	Plymouth, ...		
9. Reynolds No. 16, ...	Lehigh and Wilkes-Barre Coal Company...	Plymouth, ...		
10. Wanamie Nos. 18 & 19..	Lehigh and Wilkes-Barre Coal Company,..	Wanamie, ...		
11. Baltimore tunnel, ...	Delaware and Hudson Canal Company,....	Wilkes-Barre, ...		
12. Baltimore No. 2, ...	Delaware and Hudson Canal Company,....	Wilkes-Barre, ...		
13. Baltimore No. 3.	Delaware and Hudson Canal Company,....	Wilkes-Barre, ...		
14. [illegible]	Delaware and Hudson Canal Company,....	Wilkes-Barre, ...	A. H. Vandling, superintendent; C. C. Rose, assistant superintendent; C. H. Scharar, mining engineer.	Scranton.
15. Boston, ...	Delaware and Hudson Canal Company.....	Plymouth twp., ...		
16. No. 2 Plymouth, ...	Delaware and Hudson Canal Company,....	Plymouth twp., ...		
17. No. 3 Plymouth, ...	Delaware and Hudson Canal Company.....	Plymouth twp., ...		
18. No. 4 Plymouth, ...	Delaware and Hudson Canal Company.....	Plymouth twp., ...		
19. No. 5 Plymouth, ...	Delaware and Hudson Canal Company.....	Plymouth twp., ...		
20. Colliery No. 3, ...	Susquehanna Coal Company, ...	West Nanticoke, ..	Irving A. Stearns, general manager; J. H. Bowden, chief mining engineer; George T. Morgan, general superintendent.	Wilkes-Barre and Nanticoke.
21. Colliery No. 5, ...	Susquehanna Coal Company, ...	Nanticoke, ...		
22. Colliery No. 6, ...	Susquehanna Coal Company, ...	Glen Lyon, ...		
23. Colliery No. 7, ...	Susquehanna Coal Company, ...	Nanticoke, ...		
24. Nos. 1 and 4 shafts....	Kingston Coal Company, ...	Edwardsdale, ...	Daniel Edwards, general superintendent.	Kingston.
25. Nos. 2 and 3 shafts....	Kingston Coal Company, ...	Edwardsdale, ...		
26. Gaylord shaft and slope	Kingston Coal Company, ...	Plymouth, ...		
27. Avondale, ...	Dela., Lacka. and Western R. R. Co..	Plymouth twp., ...	W. R. Storrs, general coal agent. W. H. Storrs assistant general coal agent; A. H. Storrs, superintendent; John F. Snyder, chief mining engineer; B. Hughes, general mine superintendent.	Scranton.
28. Woodward Nos. 1 and 2	Dela., Lacka. and Western R. R. Co.. ...	Plymouth twp., ...		
29. Bliss, ...	Dela., Lacka. and Western R. R. Co..	Hanover twp., ...		
30. Auchincloss Nos. 1 and 2, ...	Dela., Lacka. and Western R. R. Co..	Hanover twp., ...		
31. Dorrance, ...	Lehigh Valley Coal Company, ...	Wilkes-Barre, ...	W. A. Lathrop, general superintendent.	Wilkes-Barre.
31. Franklin, ...	Lehigh Valley Coal Company, ...	Wilkes-Barre, ...		
32. No. 1 Red Ash, ...	Red Ash Coal Company, ...	Wilkes-Barre twp.. .	M. B. Williams, ...	Wilkes-Barre.
33. No. 2 Red Ash, ...	Red Ash Coal Company, ...	Wilkes-Barre twp.. .	M. B. Williams, ...	Wilkes-Barre.
34. Alden, ...	Alden Coal Company, ...	Alden, ...	K. M. Smith, ...	Alden Station.
35. Dodson, ...	Plymouth Coal Company, ...	Plymouth, ...	James B. Davis, ...	Plymouth.
36. Parrish, ...	Parrish Coal Company, ...	Plymouth, ...	H. H. Ashley, ...	Plymouth
37. Buttonwood, ...	Parrish Coal Company	Hanover twp , ...	H. H. Ashley, ...	Plymouth

Table No. 1.—Continued.

Name of Colliery.	Name of Operator.	Location—Luzerne County.	Name of Superintendent.	Postoffice Address.
38. West End,	West End Coal Company,	Mocanaqua,	John Conyngham,	Shickshinny and Wilkes-Barre.
39. Lee,	Nelville Coal Company,	Newport twp.,	J. M. Kin,	Lee, Luzerne county.
40. Hadleigh,	Crescent Coal Mining Company,	Sugar Notch,	George W. Milnes,	Sugar Notch.
41. Hillman Vein,	Hillman Vein Coal Company,	Wilkes-Barre,	S. J. Tonkin,	Wilkes-Barre.
42. Warrior Run,	A. J. Davis,	Warrior Run,	A. J. Davis,	Wilkes-Barre.
43. Chauncey,	Reynolds & Moyer Coal Company,	Plymouth twp.,	C. H. Reynolds,	Kingston.
44. Reynold Washery,	Reynolds & Moyer Coal Company,	Plymouth,	C. H. Reynolds,	Kingston.
45. Kidder,	Kidder Coal Company,	Wilkes-Barre twp.,	T. L. Wells,	Wilkes-Barre.
46. Wyoming,	Wyoming Coal Company,	Sugar Notch,	A. R. Anthony,	Sugar Notch.

TABLE No. 2.—Gives the total number of tons of coal mined and shipped from each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder used, etc., in the Third Anthracite Mining District, for the year ending December 31, 1896.

Names of Collieries.	Location.	Total production in tons of coal, including coal consumed at the colliery.	Local sales in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Pounds of dynamite.
Lehigh and Wilkes-Barre Coal Company.													
1 Hollenback No. 2	Wilkes-Barre	144,932.11	14,510.10	112,629.01	107.60	568	1	8	3,669	39	69	....	..
2 Empire No. 4	Wilkes-Barre	174,728.17	3,576.10	157,465.07	164.30	751	1	2	3,744	30	76	....	..
3 South Wilkes-Barre No. [illegible]	Wilkes-Barre	267,400.12	33,825.05	207,113.07	99.40	831	9	7	3,962	18	86	1	..
4 Stanton No. 7	Wilkes-Barre	175,232.19	13,296.05	141,407.14	109.65	703	1	6	3,715	47	80	1	..
5 Maxwell No. 20	Ashley	240,785.00	8,965.10	212,657.10	112.30	826	1	7	5,875	18	59	1	..
6 Sugar Notch No. 9	Sugar Notch	133,740.15	2,536.15	121,623.00	103.60	573	2	7	4,561	21	65	1	..
7 Lance No. 11	Plymouth	171,959.03	3,246.00	155,968.03	106.05	743	....	6	4,454	20	92	....	..
8 Nottingham No. 15	Plymouth	342,392.00	7,363.15	300,353.05	113.85	1,049	2	14	6,948	36	123	2	....
9 Reynolds No. 16	Plymouth	147,140.14	810.00	138,118.14	103.60	528	2	1	3,503	8	81	1	..
10 Wanamie Nos. 18 and 19	Wanamie	164,887.00	2,270.05	148,929.15	102.80	632	2	5	5,116	30	108	2	..
Total	....	1,963,199.11	90,400.15	1,696,233.16	*106.31	7,204	21	63	45,547	267	839	11	.. ..
Delaware and Hudson Canal Company.													
11 Baltimore tunnel	Wilkes-Barre	161,204.18	3,392.14	146,868.04	217.50	470	....	5	4,783	24	52	2	....
12 Baltimore No. 2	Wilkes-Barre	135,493.05	....	127,285.05	178.75	311	2	4	4,818	18	31	....	....
13 Baltimore No. 3	Wilkes-Barre twp	162,427.06	2,131.03	147,984.03	196.75	511	2	1	4,662	27	66	....	....
14 Cleaveland	Wilkes-Barre	48,595.16	695.16	39,206.00	90.50	347	....	....	1,548	34	32	....	....
15 Boston	Plymouth twp.	76,466.00	....	68,258.00	116.75	177	....	....	1,808	18	21	....	....
16 Plymouth No. 2	Plymouth twp.	57,660.19	....	43,981.19	44.50	385	1	....	980	30	52	....	....
17 Plymouth No. 3	Plymouth twp.	209,801.01	1,324.00	197,599.01	180.50	559	....	2	8,275	24	80	....	....
18 Plymouth No. 4	Plymouth twp	159,249.13	....	151,923.13	192.25	423	2	1	4,738	16	56	....	....

Table No. 2.—Continued.

Names of Collieries.	Location.	Total production in tons of coal, including coal consumed at the colliery.	Local sales in tons of coal	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Pounds of dynamite.
19. Plymouth No. 5,	Plymouth,	228,549.13	7,559.05	204,574.08	218.75	496	1	.....	7,924	36	73	.....	.....
Total,		1,239,418.11	15,102.18	1,120,804.13	*159.58	3,679	8	13	39,536	227	453	2	.....
Susquehanna Coal Company.													
20. Shaft No. 1, Breaker No. 7,	Nanticoke,	466,312.09	.....	421,544.09	166.10	1,406	2	14	.....	72	200	3	.....
21. Colliery No. 3,	West Nanticoke,	32,501.10	1,049.10	31,452.00	61.20	83	.....	.....	.....	.....	2	.....	.....
22. Shaft No. 2, Breaker No. 5,	Nanticoke,	.....	.....	.....	.....	.....	2	4	.....	.....	.....	.....	.....
23. Slope No. 4, Breaker No. 5,	Nanticoke,	432,147.02	17,797.05	362,821.17	175.00	1,422	2	5	28,378	82	159	5	.....
24. Shaft No. 6, Breaker No. 6,	Glen Lyon,	384,990.02	2,825.05	352,068.17	164.70	1,267	.....	8	.....	66	129	5	.....
25. Slope No. 6, Breaker No. 6,	Glen Lyon,	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....
26. Tunnel No. 6, Breaker No. 6,	Glen Lyon,	.....	.....	.....	.....	.....	2	4	.....	.....	.....	.....	.....
Total,		1,315,951.03	21,672.00	1,167,887.03	*141.75	4,178	8	38	28,378	220	490	13	.....
Kingston Coal Company.													
27. Shaft No. 1, Breaker No. 4,	Edwardsdale,	303,873.03	.....	275,601.03	183.20	1,006	2	1	8,755	62	105	.....	.....
28. Shaft No. 4, Breaker No. 4,	Edwardsdale,	.....	.....	.....	.....	.....	3	6	.....	.....	.....	.....	.....
29. Shaft No. 2, Breaker No. 2,	Edwardsdale,	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....
30. Shaft No. 3, Breaker No. 2,	Edwardsdale,	353,512.04	15,392.10	317,599.14	180.90	1,060	2	4	9,802	45	119	3	.....
31. Gaylord shaft and slope,	Plymouth,	121,072 01	2,844.15	104,091.06	142.85	373	1	1	4,122	31	49	.....	.....
Total,		778,457.08	18,237.05	697,292.03	*168.98	2,439	9	13	22,679	138	273	3	.....

Delaware, Lackawanna and Western Railroad Company.													
32. Avondale,	Plymouth twp.,	138,402.14	1,438.00	117,214.14	175.00	450	1	4	3,862	36	68	1	.....
33. Woodward Nos. 1 and 2,	Plymouth twp.,	430,076.09	3,078.00	402,998.09	185.50	1,143	4	29	10,472	44	130	2	.....
34. Bliss and Hanover Tunnel,	Hanover twp.,	100,726.10	1,417.00	70,309.10	128.80	439	1	4	3,855	11	38	1	8,500
35. Auchinloss Nos. 1 and 2,	Hanover twp.,	7,464.00	219.00	.....	.....	91	.....	.....	20	7	9	.....	2,000
Total.		676,669.13	6,152.00	590,522.13	*163.10	2,123	6	37	18,209	98	245	4	10,500
Lehigh Valley Coal Company.													
36. Dorrance,	Wilkes-Barre,	193,432.05	24,293.03	155,003.02	140.70	652	1	2	4,165	22	60	2	.....
37. Franklin,	Wilkes-Barre,	151,407.00	2,690.15	138,496.05	173.90	583	4	7	5,054	36	46	1	.....
Total.		344,839.05	26,983.18	293,499.07	*157.30	1,235	5	9	9,219	58	106	3	.....
Red Ash Coal Company.													
38. Red Ash No. 1,	Wilkes-Barre twp.,	114,766.15	.....	107,926.15	137.20	356	.....	2	3,220	15	22	1	.....
39. Red Ash No 2,	Wilkes-Barre twp.,	147,173.18	2,953.00	140,572.18	135.60	427	1	2	4,569	8	35	.....	.....
Total.		261,940.13	2,953.00	248,499.13	*136.40	783	1	4	7,789	23	57	1	.....
Parrish Coal Company.													
40. Parrish,	Plymouth,	149,916.09	4,518.12	131,261.17	154.55	526	1	7	3,854	31	58	.....	1,500
41. Buttonwood,	Hanover twp.,	153,856.17	1,830.00	135,610.17	141.75	535	.....	9	4,005	4	41	.....	9,750
Total.		303,773.06	6,348.12	266,872.14	*148.15	1,061	1	16	7,859	35	99	.....	11,250
Miscellaneous Coal Companies.													
42. Alden Coal Company,	Alden,	237,768.04	4,352.00	216,088.04	198.00	778	4	12	6,233	20	76	.....	.....
43. Dodson, Plymouth Coal Company,	Plymouth,	167,645.04	4,506.10	143,986.14	178.20	471	1	.....	5,148	42	35	.....	.....
44. Hadleigh, Crescent Coal Mining Co.	Sugar Notch,	57,503.14	140.00	48,653.14	150.00	303	2	.....	1,576	8	23	.....	.....
45. West End Coal Company,	Mocanaqua,	186,404.00	7,538.00	166,466.00	171.50	557	3	3	4,040	24	62	2	.....
46. Hillman Vein Coal Company,	Wilkes-Barre,	77,619.00	10,322.00	57,049.00	162.85	280	1	9	2,902	12	21	.....	.....
47. Warrior Run, A. J. Davis,	Warrior Run,	162,864.17	1,842.00	148,212.17	219.70	403	2	4	4,350	22	22	.....	.....
48. Lee Coal Company (sold to Melville coal Company),	Lee,	5,223.10	60.00	3,913.10	24.50	.....	.....	.....	227	.....	.....	.....	.....
49. Lee, Melville Coal Company,	Lee,	39,596.18	267.00	33,849.18	123.10	229	.....	2	1,521	12	18	.....	.....
50. Chauncey, Reynolds & Moyer Coal Company,	Plum township,	84,848.62	750.17	83,187.05	184.80	269	.....	2	5,000	2	25	.....	.....
51. Reynolds & Moyer Washery,	Plymouth,	10,297.07	28.00	10,019.07	59.00	25	.....	.....	.....	2	.....	.....	.....
52. Kidder Coal Company Washery,	Wilkes-Barre township,	47,985.00	.....	44,985.00	202.10	21	.....	.....	.....	3	1	.....	.....
53. Wyoming Coal Company Washery,	Sugar Notch,	55,826.15	.....	54,458.15	193.00	21	1	.....	.....	3	2	.....	.....
Total		1,132,602.11	29,806.07	1,010,870.64	*169.70	3,357	14	32	30,997	160	285	2	.....

Recapitulation. TABLE No. 2.—Continued.

Names of Collieries.	Total production in tons of coal, including coal consumed at the colliery.	Local sales in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Pounds of dynamite.
Lehigh and Wilkes-Barre Coal Company,	1,963,199.11	90,400.15	1,696,233.16	106.31	7,204	21	63	45,547	267	839	11	.....
Delaware and Hudson Canal Company,	1,239,418.11	15,102.18	1,120,804.13	159.58	3,679	8	13	39,536	227	453	2	.....
Susquehanna Coal Company,	1,315,951.03	21,672.00	1,167,887.03	141.75	4,178	8	38	28,378	220	490	13	.....
Kingston Coal Company,	778,457.08	18,237.05	697,292.03	168.98	2,439	9	13	22,679	138	273	3	.....
Delaware, Lackawanna and Western Railroad Company.	676,669.13	6,152.00	590,522.13	163.10	2,123	6	37	18,209	98	245	4	10,500
Lehigh Valley Coal Company,	344,839.05	26,983.15	293,499.07	157.30	1,235	5	9	9,219	58	106	3	.....
Red Ash Coal Company,	261,940.13	2,953.00	248,499.13	136.40	783	1	4	7,789	23	57	1	.....
Parrish Coal Company,	303,773.06	6,348.12	266,872.14	148.15	1,061	1	16	7,859	35	99	.....	11,250
Miscellaneous Coal Companies,	1,133,602.11	29,806.07	1,010,870.04	169.70	3,357	14	32	30,997	160	285	2	.....
	8,017,852.01	217,656.15	7,092,482.06	*150.14	26,059	73	225	201,213	1,226	2,847	39	21,750

N. B.—Fractions of tons are twentieths.

*Averages.

TABLE No. 3.—Showing the number of each class of employes at each colliery in the Fourth Anthracite District, during the year 1896.

Names of Collieries.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							
	Inside foremen.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All other company men.	Superintendents, bookkeepers and clerks.	Total outside.	Grand total inside and outside.
Lehigh and Wilkes-Barre Coal Company															
1. Hollenback No. 2,	2	160	45	55	51	23	336	1	5	21	140	64	1	232	568
2. Empire No. 4,	1	170	140	86	67	20	484	1	3	17	168	75	3	267	751
3. South-Wilkes-Barre Nos. 3 and 5,	1	173	205	106	44	47	576	1	7	32	141	86	4	271	847
4. Stanton No. 7,	1	161	116	46	64	29	417	1	4	25	185	68	3	286	703
5. Maxwell No. 20,	1	215	180	69	42	39	546	1	9	18	133	116	3	280	826
6. Sugar Notch No. 9,	1	153	94	88	35	27	398	1	7	19	93	58	1	175	573
7. Lance No. 11,	1	130	150	100	99	35	515	1	7	20	145	53	2	228	743
8. Nottingham No. 15,	1	264	170	100	85	26	646	1	9	28	280	83	2	403	1,049
9. Reynold No. 16,	1	118	95	52	53	25	344	1	4	11	118	49	1	184	528
10. Wanamie Nos. 18 and 19,	2	169	140	43	45	28	428	1	6	21	100	75	1	204	632
Total,	13	1,713	1,335	745	585	299	4,690	10	61	198	1,503	721	21	2,514	7,204
Delaware and Hudson Canal Company.															
11. Baltimore Tunnel,	1	85	80	36	60	16	278	1	6	19	94	69	3	192	470
12. Baltimore No. 2,	1	63	70	42	32	5	213	1	5	9	54	28	1	98	311
13. Baltimore No. 3,	1	110	116	39	58	15	333	1	8	14	108	45	2	178	511
14. Conyngham,	1	53	53	50	29	18	201	1	5	16	80	40	1	143	347
15. Boston,	1	17	30	37	6	2	93	1	5	14	33	30	1	84	177
16. Plymouth No. 2,	1	71	98	31	40	8	249	1	5	15	71	42	2	136	385
17. Plymouth No. 3,	1	135	146	51	60	25	418	1	6	18	81	34	1	141	559
18. Plymouth No. 4,	1	95	95	49	54	13	307	1	6	11	80	31	2	116	423

Table No. 3.—Continued.

Names of Collieries.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							
	Inside foremen.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All other company men.	Superintendents, bookkeepers and clerks.	Total outside.	Grand total inside and outside.
19. Plymouth No. 5,	1	118	118	55	58	15	365	1	5	18	57	48	2	131	496
Total,	9	747	800	390	397	117	2,460	9	51	134	638	372	15	1,219	3,679
Susquehanna Coal Company.															
20. Shaft No. 1, Breaker No. 7,	3	280	478	126	143	71	1,101	1	10	28	150	114	2	305	1,406
21. Shaft No. 2 and slope 4, Breaker No. 7,	2	293	470	143	140	68	1,116	1	22	28	126	127	2	306	1,422
22. Colliery No. 3,	1	6	10	2	7	.....	26	1	3	2	28	23	.....	57	83
23. Shaft, slope and tunnel, Breaker No. 6,	3	336	380	121	121	31	992	1	8	19	141	105	1	275	1,267
Total,	9	915	1,338	392	411	170	3,235	4	43	77	445	369	5	943	4,178
Kingston Coal Company.															
24. Shafts Nos. 1 and four, Breaker No. 4,	6	250	198	82	80	26	642	4	14	36	247	60	3	364	1,006
25. Shafts Nos. 2 and 3, Breaker No. 2,	5	255	216	82	95	60	713	5	14	16	193	116	3	347	1,060
26. Gaylord shaft and slope,	1	81	58	32	44	11	227	1	3	7	79	55	1	146	373
Total,	12	586	472	196	219	97	1,582	10	31	59	519	231	7	857	2,439
Delaware, Lackawanna and Western Railroad Company.															
27. Avondale,	1	105	105	48	36	9	304	1	23	7	77	36	2	146	450
28. Woodward Nos 1 and 2,	3	283	297	88	144	57	872	2	19	20	129	101	.....	271	1,143
29. Bliss,	1	57	72	66	9	3	228	1	27	15	127	40	1	211	439

30. Auchineloss Nos. 1 and 2,	1	.....	.....	39	.....	.....	40	1	14	4	.....	26	4	51	91
Total,	6	445	474	261	189	69	1,444	5	83	46	333	205	7	679	2,123
Lehigh Valley Coal Company.															
31. Dorrance,	2	147	170	67	62	16	464	1	14	16	77	75	5	188	652
32. Franklin,	1	126	123	40	44	24	358	1	11	21	114	75	3	225	583
Total,	3	273	293	107	106	40	822	2	25	37	191	150	8	413	1,235
Red Ash Coal Company.															
33. Red Ash No. 1,	1	90	90	20	32	9	242	1	4	5	60	42	2	114	356
34. Red Ash No. 2,	1	100	108	31	36	9	285	1	4	4	73	58	2	142	427
Total,	2	190	198	51	68	18	527	2	8	9	133	100	4	256	783
Parrish Coal Company.															
35. Parrish,	2	111	113	59	31	14	330	1	6	21	117	48	3	196	526
36. Butternwood,	1	119	131	65	32	30	378	1	4	12	105	32	3	157	535
Total,	3	230	244	124	63	44	708	2	10	33	222	80	6	353	1,061
Miscellaneous Coal Companies.															
37. Alden Coal Company,	2	193	199	47	46	27	514	1	10	16	158	73	6	264	778
38. Dodson, Plymouth Coal Company,	1	75	90	80	50	20	316	1	5	10	100	36	3	155	471
39. Hadleigh, Crescent Coal Company,	1	59	64	22	22	6	174	1	7	7	64	46	4	129	303
40. West End Coal Company,	3	125	155	12	38	5	338	1	7	18	122	67	4	219	557
41. Hillman Vein Coal Company,	1	60	60	37	15	21	194	1	2	7	44	29	3	86	280
42. Warrior Run, A. J. Davis,	1	100	111	30	14	18	274	1	5	11	85	25	2	129	403
43. Melville Coal Company,	2	45	45	6	10	3	111	1	6	9	60	40	2	118	229
44. Chauncey, Reynolds & Moyer Company,	1	63	75	6	25	6	176	1	3	3	60	25	1	93	269
45. Reynolds Washery,	.....	.....	.....	.....	.....	.....	.....	1	.....	2	7	14	1	25	25
46. Kilder Coal Company, Washery,	.....	.....	.....	.....	.....	.....	.....	1	.....	3	.....	16	1	21	21
47. Wyoming Coal Company Washery,	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	18	1	21	21
Total,	12	720	799	240	220	106	2,097	11	45	87	700	389	28	1,260	3,357

Recapitulation. TABLE No. 3.—Continued.

Names of Collieries.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							
	Inside foremen.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All other company men.	Superintendents, bookkeepers and clerks.	Total outside.	Grand total inside and outside.
Lehigh and Wilkes-Barre Coal Company,	13	1,713	1,335	745	585	299	4,690	10	61	198	1,503	721	21	2,514	7,204
Delaware and Hudson Canal Company,	9	747	800	390	397	117	2,460	9	51	134	638	372	15	1,219	3,679
Susquehanna Coal Company,	9	915	1,338	392	411	170	3,235	4	43	77	445	369	5	943	4,178
Kingston Coal Company,	12	586	472	196	219	97	1,582	10	31	59	519	231	7	857	2,439
Delaware, Lackawanna and Western Coal Company,	6	445	474	261	189	69	1,444	5	83	46	333	205	7	679	2,123
Lehigh Valley Coal Company,	3	273	293	107	106	40	822	2	25	37	191	150	8	413	1,235
Red Ash Coal Company,	2	190	198	51	68	18	527	2	8	9	133	100	4	256	783
Parrish Coal Company,	3	230	244	124	63	44	708	2	10	33	222	80	6	353	1,061
Miscellaneous Coal Companies,	12	720	799	240	220	106	2,097	11	45	87	700	389	28	1,260	3,357
Grand total,	69	5,819	5,953	2,506	2,258	960	17,565	55	357	680	4,684	2,617	101	8,494	26,059

TABLE No. 4.—List of fatal accidents that occurred in and about the mines of the Fourth Anthracite Mine District, for the year ending December 31, 1896.

Date of accident.	Number of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location.	Nature and Cause of Accident.
Jan. 14,	1	Patrick Conway,	Laborer,	30	....	....	South Wilkes-Barre,	Wilkes-Barre,	Instantly killed by a blast in coal. Condy Gaffeny was injured at the same time.
15,	2	Charles Schreader,	Miner,	45	1	4	Shaft No. 4,	Plymouth,	Both instantly killed by a large fall of top coal. John Kytinsley was severely injured, and William Wicht was slightly injured at the same time.
16,	3	Andrew Schwernevick...	Laborer,	26	1	....			
22,	4	Mike Frost,	Laborer,	24	....	....	Slope No. 4,	Nanticoke,	Instantly killed by a fall of top coal in a breast.
31,	5	Joseph Shupula,	Laborer,	27	....	....	Shaft No. 1,	Nanticoke,	Fatally injured by a fall of top coal. Died February 3d.
Feb. 6,	5	Joseph Cragle,	Laborer,	48	1	6	West End,	Mocanaqua,	Fatally injured by a fall of coal. Died on the way home. John Gable was severely injured at the same time.
18,	7	Thomas McGrane,	Laborer,	35	....	....	Maffet,	Sugar Notch,	Killed by a fall of rock roof at face of gangway.
26,	8	Henry Beddoe,	Driver,	17	....	....	Shaft No. 2,	Nanticoke,	Fatally injured from a kick by a mule.
29,	9	Hugh Williams,	Laborer,	27	....	....	Franklin,	Wilkes-Barre,	Fatally injured by a premature blast. John W. Jones was injured by same explosion.
Mar. 3,	10	Daniel Reid,	Miner,	54	1	8	Shaft No. 2,	Plymouth,	Killed by a fall of coal in breast on Bennett seam.
5,	11	Thomas Urick,	Miner,	34	1	2	Tunnel No. 6,	Glen Lyon,	Killed by a fall of top rock at face of breast.
6,	12	John Jones,	Footman,	20	....	....	Bliss,	Hanover,	With a loaded car he fell from the Ross to Red Ash seam in the shaft, and was instantly killed.
12,	13	Constine Bitleyeskie,	Miner,	38	1	....	Shaft No. 1,	Nanticoke,	Fatally injured by a fall of rock from roof. Died on the way home.

Table No. 4.—Continued.

Date of accident.	Number of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location.	Nature and Cause of Accident.
Mar. 19,	14	William Wark,	Runner,	19	....	....	Franklin,	Wilkes-Barre,	Fatally injured by having been crushed between cars at foot of slope. Died on the way home.
25,	15	Andrew Hido,	Miner,	28	....	....	Shaft No. 1,	Edwardsdale,	Fatally burned by an explosion of gas in an old breast. Died on the 26th.
April 1,	16	Henry Bennett,	Driver,	21	....	....	Shaft No. 9,	Sugar Notch,	Bennett fatally injured. Burke instantly killed by an explision of gas in the Twin Seam, fired by Henry Lloyd, who was severely burned. Thomas Hoskings was also painfully injured.
1,	17	Thomas Burke,	Door tender,	17	....	....			
13,	18	Arthur Golightly,	Bratticeman,	30	1	4	Woodward,	Plymouth twp.,	Fatally injured by an explosion of gas, which was caused by a mine fire. There were four others more or less severely injured. Golightly died the next morning.
15,	19	Molick Addude,	Slate picker,	15	....	....	Nottingham,	Plymouth,	Killed by having been crushed between railroad cars near the breaker.
20,	20	Ignats Rushinski,	Miner,	44	1	5	West End,	Mocanqua,	Instantly killed by a fall of rock and coal.
23,	21	Henry Reider,	Driver,	21	....	....	West End,	Mocanqua,	Fatally injured by having been crushed between cars. Died five hours after.
24,	22	John G. Brisbin,	Miner,	45	1	2	Warrior Run,	Warrior Run,	Fatally injured by a fall of coal. Died on reaching home.
28,	23	John Llewlyn,	Footman,	19	....	....	Franklin,	Wilkes-Barre,	Instantly killed by having been struck by a rope on slope.
25,	24	John Swisko,	Not employed,	20	....	....	Red Ash No. 2,	Wilkes-Barre,	Killed by a fall of rock while in the mine with another man learning the work.
May 13,	25	Alexander Machusky,	Driver,	14	S	....	Maxwell,	Ashley,	Leg crushed between cars. Died from shock when his leg was amputated May 14th.
27,	26	Ebenezer Llewelyn,	Miner,	53	1	7	Shaft No. 3,	Edwardsdale,	Instantly killed by a premature blast.

June	1,	27	Anthony Reposick,	Laborer	26	1	1	Wanamie No. 13,	Wanamie,	Killed by having been crushed between a car and prop when riding up the slope in contravention of the law.
	2,	28	Frank Cooney,	Miner	50	1	3	Maffet,	Sugar Notch,	Killed by a fall of rock in a breast in the Marsden seam.
	5,	29	Richard Lloyd,	Miner	35	1	6	No. 3 S. Wilkes-Barre,	S. Wilkes-Barre,	He, together with a large piece of rock, fell down a steep pitching place, and he was fatally injured and died the following day.
	15,	30	George Bankus,	Driver,	18	....	....	Avondale,	Plymouth twp.,	Knee severely crushed between cars, died in a few hours.
	16,	31	Daniel Carr,	Driver,	18	....	....	Gaylord,	Plymouth,	Crushed between a car and rib; died in a few minutes.
	16,	32	James McMullen	Driver,	20	....	....	New No. 5 shaft,	Plymouth,	Head struck against the roof when riding on a car. Skull fractured; died the same evening.
	18,	33	Henry Lowe,	Oiler,	15	....	....	Hillman Vein Breaker,	Wilkes-Barre,	Killed. Caught in the screen shaft in the breaker.
	25,	34	James Bailey,	Miner,	52	1	1	Dorrance,	Wilkes-Barre,	Killed by a runaway car on a slope. Had gone out from his working place and was sitting at bottom of slope
	29,	35	Miles E. Miles,	Timberman,	33	1	3	Shaft No. 4,	Edwardsdale,	Fell a depth of thirty-five feet from a platform in the shaft while working on the brattice.
July	8,	36	John Kasulas, Jr.	Laborer,	23	....	....	Wanamie No. 19,	Wanamie,	Fatally injured by a premature blast. It exploded while it was being charged. Died July 9th.
	10,	37	Wm. R. Evans	Miner,	24	....	....	Woodward,	Plymouth twp.,	Fatally burned by an explosion of gas which accumulated while a door was open. Died July 22d.
	11,	38	Edward Hughes,	Miner,	49	1	4	Hollenback,	Wilkes-Barre,	Injured by a fall of bony coal in the Red Ash seam. Died July 19th.
	15,	39	Michael Cushco,	Laborer,	60	1	4	Sugar Notch washery,	Sugar Notch,	Drawn through a chute and was fatally injured. Died at the hospital July 19th.
	21,	40	Jacob Koshinski,	Laborer,	47	1	4	Alden No. 2,	Alden,	Instantly killed by a blast. It exploded when he and miner were returning, thinking the squib had missed.
	23,	41	William Novashella	Slatepicker	23	....	....	Breaker No. 4,	Edwardsdale,	Fatally injured on railroad after working hours. Died July 24th at the hospital.
Aug.	4,	43	John Blash,	Laborer,	25	....	....	Empire,	Wilkes-Barre,	Killed by a rush of coal in the chute in a breast on the Skidmore seam.
	5,	42	Adam Matsavage	Miner,	28	....	....	Alden No. 1,	Alden,	Instantly killed by a fall of coal at face of breast.
	11,	44	John Gerlishki,	Laborer,	23	....	....	Reynolds No. 16,	Plymouth,	Both fatally burned by an explosion of nearly a full keg of powder; both died on August 13.
	11,	45	Wm. Bambrick,	Doortender,	15	....	....	Reynolds No. 16,	Plymouth,	
	11,	46	Llewelyn P. Owens,	Miner	28	1	4	Dodson,	Plymouth,	Severely burned by an explosion of gas which accumulated below a wall in a heading. Died at the hospital August 14th.

TABLE No. 4.—Continued.

Date of accident.	Number of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location.	Nature and Cause of Accident.
Aug. 15,	47	John H. Flynn,	Asst. foreman,	38	1	9	Franklin,	Wilkes-Barre,	Fatally burned by an explosion of gas while making changes in the course of the air current. He was using naked lights. Jos. F. Hughes and James Monaghan were burned at the same time. Flynn died August 17th.
19,	48	Patrick Moore,	Miner,	30	1	....	Baltimore No. 2,	Wilkes-Barre,	Fatally burned by an explosion of gas in an abandoned breast. Died August 21st.
24,	49	Joseph Shonkoski,	Laborer,	43	1	3	Baltimore No. 3,	Wilkes-Barre twp.,	Killed by a piece of coal thrown from a blast. Exposed himself, against the order of the miner.
26,	50	John H. Smale,	Doortender,	16	....	....	Slope No. 4,	Nanticoke,	Fatally injured by cars. Died soon after reaching home.
31,	51	John Quinn,	Driver,	19	....	....	Shaft No. 3,	Edwardsdale,	Killed by falling under a car when unhitching his mule.
Sept. 2,	52	Martin Pluto,	Miner,	51	1	6	Alden,	Alden,	Fatally injured by a fall of top coal; died September 4th
8,	53	John T. Morgan,	Driver,	18	....	....	Nottingham,	Plymouth,	Killed by stepping off the cage when descending the shaft; he fell a depth of 82 feet.
14,	54	Morgan Evans,	Oiler,	17	....	....	Woodward breaker,	Plymouth twp.,	Clothing caught by a revolving shaft and killed.
Oct. 2,	55	Thomas D. Jones,	Runner,	21	....	....	Shaft No. 2,	Edwardsdale,	Killed. Struck by a rope at head of plane.
14,	56	Edward Williams,	Doortender,	16	....	....	Shaft No. 3,	S. Wilkes-Barre,	Killed. Hitching plate broke, which caused a car to run back on slope, which ran upon him at the bottom.
14,	57	Richard Pollard,	Miner,	53	1	4	Shaft No. 3,	Plymouth,	Instantly killed by a fall of rock when he was prying down Foot seam.
17,	58	Valentine Dipko,	Laborer,	26	....	....	Shaft No. 4,	Edwardsdale,	Fatally injured by a fall of rock in the breast, and died October 18th.

	26.	59	John Roman,	Signaller,	16			Alden,	Alden	Killed. Head crushed between top rail of cars when uncoupling at foot of slope.
	29.	60	John D. Joseph,	Ass. foreman,	53	1	8			Joseph and Jones were killed by after-damp while trying to rescue the others after an explosion of gas. Worth, Lacey, Owens and Herron were killed by the explosion. The last three were together making room for an air bridge and Worth was there to see that the work was being properly done. At 1 P. M., when firing a blast in the rock, an explosion of gas took place, killing the four instantly. (See report).
	29.	61	William R. Jones,	Fire boss,	52	1	6			
	29.	62	Joseph Worth,	Fire boss,	48	1	5	Shaft No. 3,	S. Wilkes-Barre,	
	29.	63	William D. Lacey	Contractor,	44	1	7			
	29.	64	Thomas Owen,	Miner,	35	1	6			
	29.	65	James Herron,	Miner	33	1	1			
	30.	66	Mike Evans,	Laborer	31			Shaft No. 1,	Edwardsdale,	Killed by a fall of coal from the rib in a breast.
Nov.	2.	67	Anthony Shimiskie,	Laborer,	35	1	2	Warrior Run,	Warrior Run,	Instantly killed by a fall of rock at face of a breast in the Red Ash seam.
	9.	68	Anthony Kewalskie,	Laborer	35	1	3	Shaft No. 2,	Nanticoke,	Tried to knock a prop out and the roof feel on him, fatally injuring him. He died the same night.
	13.	69	Charles Rice,	Miner,	35	1	3	Stanton,	Wilkes-Barre,	Fatally injured by a blast which fired when he was close by. Died November 16th.
	16.	70	John W. Boyce,	Miner,	27			Parrish,	Plymouth,	Killed by top coal. He was prying the lower bench, when the upper one fell on him.
	23.	71	Thomas Emlyn	Laborer,	45			Woodward,	Plymouth twp.,	Spine fractured by a fall of top rock. Died November 29th.
Dec	11.	72	Frank Shost,	Laborer,	34	1	3	Tunnel No. 6,	Glen Lyon,	Fatally injured by a fall of rock on gangway, through the gross carelessness of the miner.
	21.	73	Mike Kushinski,	Laborer,	25			Baltimore No. 2,	Wilkes-Barre,	Partially asphyxated by smoke from a fire in the mine. He fell unconscious and his lamp set his clothing on fire. He was brought out alive, but died from shock four days after.

Recapitulation of Fatal Accidents.

1896.	Causes of Accidents.								Occupation.								Nationality.								
	By explosion of fire damp.	By falls of coal and roof	By falling down shafts.	By mine cars underground.	By explosions of powder and blasts.	Miscellaneous causes inside of mine.	Miscellaneous causes outside.	Total.	Miners.	Laborers.	Runners and drivers.	Door tenders.	Foremen and assistants.	Company day men.	Outside hands.	Total.	American.	Welsh.	Irish.	English.	Polish.	Hungarian	German.	Lithuanian.	Total.
January,	.....	4	.....	.....	1	.....	.....	5	1	4	.....	.....	.....	.....	.....	5	.....	.....	1	.....	2	.....	1	1	5
February,	.....	2	.....	.....	1	1	.....	4	.....	3	1	.....	.....	.....	.....	4	2	1	1	.....	.....	.....	.....	.....	4
March,	1	3	1	1	.....	.....	.....	6	4	.....	1	.....	.....	1	.....	6	1	1	1	.....	2	1	.....	.....	6
April,	3	3	.....	1	.....	1	1	9	2	1	2	1	.....	2	1	9	2	.....	2	2	3	.....	.....	.....	9
May,	.....	.....	.....	1	1	.....	.....	2	1	.....	1	.....	.....	.....	.....	2	.....	1	.....	.....	1	.....	.....	.....	2
June,	.....	2	1	5	.....	.....	1	9	3	.....	3	.....	.....	2	1	9	1	2	3	2	1	.....	.....	.....	9
July,	1	1	.....	.....	2	.....	2	6	2	3	.....	.....	.....	.....	1	6	.....	2	.....	.....	3	1	.....	.....	6
August,	3	1	.....	2	3	1	.....	10	3	3	1	2	1	.....	.....	10	5	.....	1	.....	4	.....	.....	.....	10
September,	.....	1	1	.....	.....	.....	1	3	1	.....	1	.....	.....	1	.....	3	.....	2	.....	.....	1	.....	.....	.....	3
October,	6	3	.....	2	.....	1	.....	12	4	2	1	1	3	1	.....	12	2	3	2	1	3	.....	.....	.....	12
November,	.....	4	.....	.....	1	.....	.....	5	2	3	.....	.....	.....	.....	.....	5	.....	1	.....	1	3	.....	.....	.....	5
December,	.....	1	.....	.....	.....	1	.....	2	.....	2	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	2	.....	.....	.....	2
Total,	14	25	3	12	9	5	5	73	23	21	11	4	4	7	3	73	13	15	11	6	24	2	1	1	73

Note.—Number of widows, 34; orphans, 134.

TABLE No. 5.—Showing number of each class of serious non fatal accidents, number of each class of employes and the nationality of persons seriously injured for each month during the year 1896.

1896.	Causes of Non-Fatal Accidents									Occupations of those Injured.								Nationality of Persons Injured.									
	By explosion of fire damp.	By falls of roof and coal	By mine cars inside of the mines	By explosions of powder and blasts	By miscellaneous causes inside of the mines	By miscellaneous causes on surface.	Total	Miners.	Laborers	Drivers and drivers	Door tenders	Foremen and assistants	Company workmen	Outside employees	Total.	American.	Welsh.	Irish.	Polish.	English	Scotch	German	Hungarian	Russian	Total.	Very slight injuries not included in the foregoing table.
November	3	2	2				7	5	1	1					7	1	2	2	1	1					7	2
January	3	2	2				7	5	1	1					7	1	2	2	1	1					7	2
February	3	2	2				7	5	1	1					7	1	2	2	1	1					7	2
March	3	2	2				7	5	1	1					7	1	2	2	1	1					7	2
April	3	2	2				7	5	1	1					7	1	2	2	1	1					7	2
May	3	2	2				7	5	1	1					7	1	2	2	1	1					7	2
June	3	2	2				7	5	1	1					7	1	2	2	1	1					7	2
July	3	2	2				7	5	1	1					7	1	2	2	1	1					7	2
August	3	2	2				7	5	1	1					7	1	2	2	1	1					7	2
September	3	2	2				7	5	1	1					7	1	2	2	1	1					7	2
October	3	2	2				7	5	1	1					7	1	2	2	1	1					7	2
December	3	2	2				7	5	1	1					7	1	2	2	1	1					7	2
Total	36	24	24				84	60	12	12					84	12	24	24	12	12					84	24

10--11--96

FIFTH ANTHRACITE DISTRICT.

(LUZERNE AND CARBON COUNTIES.)

Hazleton, Pa., March 19, 1897.

Hon. James W. Latta, Secretary of Internal Affairs:

Dear Sir: I have the honor as Mine Inspector of the Fifth Anthracite district of herewith submitting to you the annual report of said district for the year ending December 31, 1896.

Having entered upon the duties of the office on the 17th of September, 1896, I have scarcely had more than time to become acquainted with the different localities and the topography of the mines in the district.

The total production of coal for the year was 5,872,427 tons, a decrease of 817,539 tons as compared with the output of the previous year. The total shipments were 5,042,432.03 tons.

The number of lives lost in the production of this quantity of coal was 42, being ten less than the fatalities of 1895, leaving 20 wives widows and 38 orphans to mourn the loss of their protectors.

The number of non-fatal accidents was 91, making the total casualities in and about the mines of this district 133, for the year 1896.

The number of tons of coal produced per life lost was 139,819, which is an increase per fatal accident of 13,069 tons over that of 1895.

The tables show that 17,568 persons were employed in and about the mines of this district during the year.

The usual tables and statistics are embodied in this report, together with a description of improvements and developments at the collieries in the district during the year.

Respectfully yours,

W. H. DAVIS,
Inspector of Mines.

Tons of Coal Mined During the Year 1896.

A Pardee & Co.,	147,444.06
Cross Creek Coal Company,	1,029,551.13
Lehigh Coal and Navigation Company,	797,276.08
G. B. Markle & Co.,	716,139.12
Lehigh Valley Coal Company,	808,925.12
Linderman & Skeer,	121,693.00
A. S. Van Wickle,	674,168.04
Calvin Pardee & Co.,	681,800.02
Upper Lehigh Coal Company,	263,629.18
Lehigh and Wilkes-Barre Coal Company,	133,400.02
M. S. Kemmerer & Co.,	130,280.08
C. M. Dodson & Co.,	193,414.00
J. S. Wentz & Co.,	88,000.00
The Evans Mining Company,	40,000.00
New Ebersole Coal Company,	46,703.15
Total,	5,872,427.00

Number of Fatal Accidents and tons of coal mined per life lost.

Name of Operators.	Number of lives lost.	Tons of coal mined per life lost.
A Pardee & Co.,	1	147,414
Cross Creek Coal Company,	10	102,955
Lehigh Coal and Navigation Company,	2	398,638
G. B. Markle & Co.,	4	179,034
Lehigh Valley Coal Company,	8	84,079
Linderman & Skeer,	2	60,846
A. S. Van Wickle,	3	224,722
Calvin Pardee & Co.,	4	170,450
Upper Lehigh Coal Company,	2	130,280
Lehigh and Wilkes-Barre Coal Company	1	131,814
M. S. Kemmerer & Co.,	1	130,280
C. M. Dodson & Co.,	1	193,414
J. S. Wentz & Co.,	2	44,000
The Evans Mining Company,	1	40,000
New Ebervale Coal Company,		
Total and average,	42	139,819

Number of Non-Fatal Accidents and tons of coal mined per person injured.

Names of Operators.	Number of persons injured.	Tons of coal mined per person injured.
A. Pardee & Co.,	7	21,063
Cross Creek Coal Company,	10	102,955
Lehigh Coal and Navigation Company,	4	199,319
G. B. Markle & Co.,	12	59,678
Lehigh Valley Coal Company,	13	62,227
Linderman & Skeer,	6	90,282
A. S. Van Wickle,	4	168,542
Calvin Pardee & Co.,	18	37,877
Upper Lehigh Coal Company,	3	87,876
Lehigh and Wilkes-Barre Coal Company,	3	44,466
M. S. Kemmerer & Co.,	1	130,280
C. M. Dodson & Co.,	4	48,353
J. S. Wentz & Co.,	4	22,000
The Evans Mining Company,	1	40,000
New Ebervale Coal Company,	1	46,703
Total and average,	91	64,532

Number of Fatal and Non-Fatal Accidents and tons of coal mined per accidents.

Names of Operators.	Number of accidents, fatal and non-fatal.	Tons of coal mined per fatal and non-fatal accident.
A. Pardee & Co.,	8	18,430
Cross Creek Coal Company,	20	51,477
Lehigh Coal and Navigation Company,	6	132,879
G. B. Markle & Co.,	16	44,758
Lehigh Valley Coal Company,	21	38,520
Linderman & Skeer,	8	15,211
A. S. Van Wickle,	7	96,309
Calvin Pardee & Company,	32	30,990
Upper Lehigh Coal Company,	5	52,725
Lehigh and Wilkes-Barre Coal Company,	2	33,350
M. S. Kemmerer & Co.,	2	65,140
C. M. Dodson & Co.,	5	38,682
J. S. Wentz & Co.,	6	14,666
The Evans Mining Company,	2	20,000
New Ebervale Coal Company,	1	46,703
Total and average,	133	44,153

Comparative Statement, showing the number of tons of coal produced, number of fatalities, tons of coal produced per fatal accident, number of persons employed, number of persons employed per life lost and number of deaths per thousand employes for the past ten years.

Years.	Production of coal in tons.	Number of fatal accidents.	Tons of coal produced per fatal accident.	Number of persons employed.	Number of persons employed per life lost.	Number of deaths per thousand persons employed.
1887,	3,961,594	15	264,106	14,096	939.73	1,064
1888,	4,892,514	32	152,891	14,448	451.50	2,215
1889,	5,655,196	46	122,939	14,686	319.26	3,200
1890,	5,776,699	52	111,090	14,421	277.33	3,606
1891,	5,803,954	53	109,509	14,961	282.28	3,543
1892,	5,842,721	48	121,725	16,277	339.19	2,949
1893,	6,239,068	58	107,570	17,540	302.48	3,307
1894,	6,132,627	58	105,735	18,361	316.57	3,103
1895,	6,590,966	52	126,750	18,467	355.13	3,461
1896,	5,872,427	42	139,819	17,568	418.28	2,470
Total,	56,767,776	456	124,488	160,825	352.68	2,812

Nationality of persons fatally and non-fatally injured.

Nature of Accident.	Hungarians.	Polish.	Irish.	English.	Welsh.	German.	American.	Austrian.	Italian.	Total.
Fatal accidents,	17	8	6	3	.....	.....	2	5	1	42
Non-fatal accidents,	32	11	13	2	3	5	13	4	8	91
Total,	49	19	19	5	3	5	15	9	9	133

Table of Comparison, showing number and different causes of fatal accidents in the Fifth District during the past ten years.

Causes of Accidents.	Years.										
	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	Total.
By water from old workings,	.....	.....	.....	.....	9	.....	.....	.....	.....	.....	9
Asphyxiated by gases,	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	6
By explosion of gas,	1	.....	1	1	.....	.....	1	1	1	.....	6
By falls of coal roof and sides,	6	14	22	19	16	25	18	21	24	18	183
By cars inside and on surface,	3	6	11	19	6	15	15	15	13	11	114
By blasts and powder explosions,	2	4	4	1	4	2	11	15	7	3	52
By machinery inside and on surface,	1	2	.....	7	5	3	4	3	2	4	31
By boiler explosions,	1	.....	4	.....	1	.....	.....	.....	1	3	10
By miscellaneous causes inside and on the surface,	1	6	4	5	6	3	9	3	4	4	45
Total,	15	32	46	52	53	48	58	58	52	42	456

Recapitulation of Fatal Accidents as per Table No. 4.

Occupation	Number killed.	Per cent.	Nationality.	Number killed.	Per cent.	Causes of Accidents.	Number killed.	Per cent.
Miners	17	40.48	Americans	2	4.76	By falls of all kinds, including stripping	18	42.86
Miners' laborers	12	28.57	English	3	7.15	By premature blasts on the stripping	2	4.76
Drivers and runners	1	2.38	Irish	6	14.28	By mine cars in the mines	5	11.91
Door tenders	1	2.38	Hungarians	17	40.48	By cars on the surface, including railroad cars	6	14.28
Other company men	1	2.38	Polish	8	19.04	By boiler explosions	3	7.15
Outside laborers, etc.	5	11.91	Austrian	5	11.91	By machinery	4	9.52
Engineers and firemen	2	4.76	Italians	1	2.38	From miscellaneous causes, inside and outside	4	9.52
Slate pickers	2	4.76						
Screen bosses	1	2.38						
	42	100.00		42	100.00		42	100.00

Recapitulation of Non-Fatal Accidents as per Table No. 5.

Occupation.	Number of injured.	Per cent.	Nationality.	Number of injured.	Per cent.	Causes of Accidents.	Number of injured.	Per cent.
Mine foreman,	3	3.29	Americans,	13	14.28	By explosion of fire damp of C H. gas,	1	1.09
Miners,	32	35.17	Welsh,	3	3.29	By falls of coal, rock and slate in the mines,	26	28.58
Miners' laborers,	36	39.57	English,	2	2.20	By falls of coal, rock and clay on the strippings,	7	7.69
Drivers and runners,	10	10.99	German,	5	5.50	By blasts in the mines,	11	12.09
Door tenders,	2	2.20	Irish,	13	14.28	By blasts on the strippings,	4	4.40
Other company men,	3	3.29	Hungarian,	32	35.17	By mine cars in the mines,	12	13.19
Outside laborers, etc.,	2	2.20	Polish,	11	12.09	By mine and railroad cars on the surface,	8	8.79
Engineers and firemen,	1	1.09	Austrian,	4	4.40	By explosions of powder in the mines,	2	2.20
Slate pickers,	2	2.20	Italians,	8	8.79	By explosions of powder on the strippings,	1	1.09
						By machinery,	6	6.60
						From miscellaneous causes, inside and outside,	13	14.28
	91	100.00		91	100.00		91	100.00

Examination of Applicants for Mine Foreman and Assistant Mine Foreman's Certificates.

The annual examination of applicants for certificates of qualification for mine foreman and assistant mine foreman was held in the Pine street school building, Hazleton, Pa., on June 18 and 19, 1896.

The board of examiners were J. E. Roderick, Inspector of Mines; A. C. Leisenring, superintendent; John O'Hara and Robert Munroe, miners.

The following named persons having passed a satisfactory examination, were recommended and received certificates:

Mine Foremen.

Arthur Watkins, Lansford.
William Edwards, Beaver Brook.
Joseph Birbeck, Silver Brook.
Thomas H. Rawlings, Beaver Brook.
Charles A. Harvey, Eckley.
John Gillespie, Drifton.
Henry H. Sheer, Hazleton.
Patrick Kelley, Beaver Meadow.
Joseph Shaw, Upper Lehigh.
John Evans, Hazle Brook.
J. Bernard Carr, Eckley.
C. L. Hoover, Sandy Run.
Daniel Craig, Eckley.
James Shovelin, Drifton.
Anthony Reilly, Hazleton.
Joseph Robertson, Hazleton.
John M. Williams, McAdoo.
Gomer S. Morgans (reissued), Hazleton.

Assistant Foremen.

William Meikrants, Hazleton.
George Ernst, Oneida.
David S. Jones, Upper Lehigh.
William Wallace, Upper Lehigh.
William Renshaw, Jeddo.
Charles Kirchderfer, Tomhickon.
Martin Sauer, Hazleton.
Nicholas Michael, Hazleton.
Hugh McAdams, Stockton.
James Duncan, Summit Hill.
Evander Krommas, Upper Lehigh.
Joseph McShea, Harwood.
Henry Barnhart, Oneida.

John Hurley, Upper Lehigh.
George Siegel, Milnesville.
Frank Houser, Oneida.
John Bonner, Oneida.
William S. Fletcher, Freeland.
John J. McGeehan, Hazleton.
Robert Swan, Hazleton.
Frederick Lesser, Upper Lehigh.
John A. Reeves, Lansford.
James Harlor, Hazleton.
David M. Thomas, Beaver Brook.
Barney McCauley, Silver Brook.

MINE IMPROVEMENTS DURING 1896.

The improvements and developments at the collieries made during the year 1896 in the Fifth Anthracite district are as follows:

Cross Creek Coal Company.

Drifton Slope No. 1.—The lease of the "George More" tract, which covers the southern portion of the flat workings in connection with slope No. 1, has been renewed. This section has been practically worked out and a final robbing only remains to be done. The Buck Mountain vein on that part of the property is in fault, divided into two benches by faulty rock, varying from two to six feet and leaving the bottom bench of from two and one-half to four feet, and top bench from five to six feet in thickness. The tonnage so far obtained has been in excess of 10,000 tons per acre.

The lease had been scarcely renewed, when an extensive cave-in occurred, covering about 30 acres in the western section of the property. This cave-in did not come unexpectedly to the company, but the land owners, who were misled by their engineer's report, were very much surprised. In consequence of this cave-in, the west section has been abandoned and the water allowed to rise, but work was continued in the east section until a cave took place there also, which covered about eight acres, when the pumping and all mining was abandoned in the eastern section also. It is the intention to let these sections be idle for the present, until such time as the demand for coal will allow rapid mining, as it is necessary to make robbing practicable and profitable.

Drifton Slope No. 2.—In this slope preparatory work has been done, consisting of grading and straightening of main roads in the lower levels, with a view of installing either electric or pneumatic

haulage. The intention is to run the motor for about a mile from the bottom of the slope, where grades running up to seven and eight per cent. make mule haulage very expensive. At the end of this, one section of mechanical haulage will be put in operation, with a hoisting engine, to overcome 2,200 feet of a grade running from seven to 10 per cent. Steam will be conducted from underground boilers located at slope No. 5 Drifton, and a 5-inch steam pipe line covered with asbestos, has been run from these boilers over the surface to a 12-inch bore hole of 340 feet depth to a point where the underground hoisting engines are located, which is about 4,000 feet from the boilers. A fan has been erected from an airway driven from the "Big Vein" gangways which will be supplied from the same boilers.

The boiler plant at breaker No. 2 has been remodelled, which is expected, in its present condition, to overcome the scarcity of steam from which this colliery had been suffering in the past.

Eckley Colliery.

The residuary mining has been continued on the Council Ridge and Buck Mountain properties. A slope has been sunk in the spoon end of the No. 1 basin continued through rock and connected with the Buck Mountain No. 2 tunnel, of which mention was made in last year's report.

The water in the old workings in the No. 1 slope has been tapped but the greater volume of water still lies in the No. 2 workings. All preparations have been made for tapping this water, and at this writing a perpendicular shaft has been driven to within two feet of the body of water lying above, which represents a water pressure of about 150 feet perpendicular.

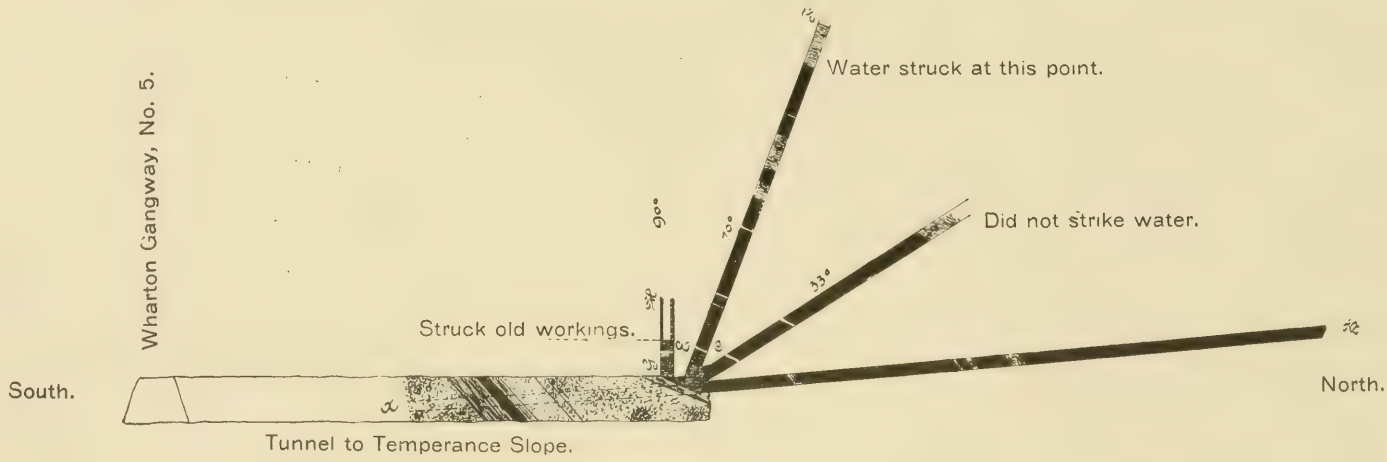
An airway has been driven, keeping flank drill holes and perpendicular drill holes ahead to locate the old works. When the first drill hole was connected with the old works it was found that an intervening strata of twelve and one-half feet remained. A dozen diamond drill holes were then run into these old works, but on account of the small size and the enormous pressure, these holes were blocked up so quickly that the tapping by this method was considered unsatisfactory, as an area of one and one-half miles extension will have to be drained.

A second airway was driven parallel with the first one, and when they had reached the same distance to the old works, a shaft was started, which was run four feet square for six feet, until a dividing slate of ten inches was struck, then it was narrowed to a three feet square section through the slate, then again narrowed to a two feet section in the coal bench until only two feet of the strata remained until the water could be reached.

A prop of 11 inches diameter was set into this shaft, which reached to within 6 inches of the roof of the shaft, and a fourteen-inch square box made of boiler iron was placed on top of this prop. As this pan would require too large an amount of powder to fill it, it was lined with four inches of hard wood, leaving a two-inch opening on the one side only, through which the dynamite will be inserted when ready to tap the water. The firing will naturally be done by electricity, and to avoid a blacking of the two-inch opening, the section of which is reduced by that fourteen-inch prop, an extra cartridge will be placed in the auger hole put into the prop five inches above the bottom, which will be fired a moment later than the principal charge.

In reference to this tapping, it may be of interest to note that the first attempt to open the twelve diamond drilled holes put at a ten-inch distance from each other from the face of the first airhole into the old works proved a decided failure as the airway is over 150 feet long on an average of thirty degrees pitch. It was impossible to have the plugs which closed the drill holes pulled by hand because the men detailed for the work would have been drowned before getting down the airway; therefore, a twelve-inch long plug was driven into each drill hole, which was pierced by an auger hole of ten inches. This auger hole was filled with dynamite, the holes connected by electric wires and the charge set off. The result was a great surprise because no water was tapped, the bore holes had simply acted like so many cannons, and in place of scattering and splitting the wooden plugs, it cut them clean off at the base of the hole and the balance of the plug remained and shut the water off the same as before the shots were fired. The next move was to drill slanting over these remaining plugs holes into the coal from seven to eight feet deep. About 150 sticks of dynamite were placed into these holes with the expectation, not only of knocking the plugs out, but probably bursting the coal through into the old works and so discharging the water. The charge was fired and a great rush of water came for a few seconds, then it stopped and shortly after not so much water as one drill hole would carry, ran off. It was evident that the heavy pressure of water had not only counteracted the charge of dynamite, but forced the loose stuff forming the flow on the gangway into the crevices blocking them entirely. The face of the coal into which these shots were put, represented an entirely shattered appearance, so that it was not considered safe to meddle any more with it, and as a matter of safety the second airhole was driven.

The stripping operations have continued, but very little coal has been taken from them, and at the present writing about 200,000 tons stripped are in sight; 170,000 yards of earth, etc., were removed by two contractors during the year 1896.



SECTION THROUGH TUNNEL AND HAND DIAMOND DRILL HOLES
IN FACE OF TEMPERANCE TUNNEL SLOPE. No. 2.
BEAVER MEADOW COLLIERY.

Edgar Knabb

Beaver Meadow Colliery.

No improvements are reported as having been made at this colliery during 1896 except the successful tapping of the Temperance Slope which had been submerged since 1854, and of which no maps existed as guides in locating the old mine workings.

The accompanying sketch will show the risk run in approaching the old workings. The sketch shows the tunnel driven from Wharton gangway No. 5, Beaver Meadow, towards the Temperance basin, into which the old workings extend on the Mammoth vein. Nothing whatever is known about the levels or mode of working, therefore when the tunnel reached a point "A" a hand drill hole was drilled on the rise of about five degrees on line "A-B." This bore hole passed the basin at a point about 60 feet south of point "B." Near this point water was struck which had not much pressure, in fact, not enough to clear the hole. This was done in 1888. The tunnel was extended by reason of the developments of this hole, and was continued until the "Mammoth vein" was struck, when it stopped. The face of the tunnel was perfectly dry, and when during the drought in 1895 it was desirable to get breaker wash water, it was necessary to clean out the hole "A-B," as it had been so completely blocked up that no water could come through.

Recently contemplating the re-opening of the Temperance basin, one more hole was drilled, marked on sketch "C-D," on thirty-three degrees pitch, which was stopped in dividing between the seven-foot and nine-foot (Primrose) bench, but no water was struck in this hole. The next hole was put upon seventy degrees square, to the pitch of the vein as it appeared in the tunnel, and this hole was drilled through the Big Vein and nine-foot bench, and about eight feet more into the top clod of the nine-foot bench, when at the parting, between the nine-foot and its top slate, a slight increase of water was noticed, but "de facto," neither of these three holes gave the absolute position of the old work, and they were naturally unsatisfactory as to proving.

Then the hole "G-H," perpendicularly about three feet back of hole "E-F," was drilled; it went through four feet of hard coal into six inches of slate without any signs of water; then two feet more were drilled in coal, when they struck into what was found to be the old gangway. The drill passing eight feet six inches through open space and struck timber or lagging in the old workings.

Now the interesting feature is, that this hole did not show any water within two feet of striking into the Temperance workings, the standing water of which represents about 150 feet perpendicular pressure.

The hole "E-F" passed at the nearest point and within not more than five or six feet from the gangway or opening, and finally struck

in hole "G-H," but did not show any water at that point, nor at any point above it, until the top slate of the Primrose was struck or tapped.

At this writing the old workings have not been thoroughly explored as yet, but from what can be seen of them it must be said they are a flattering testimonial to the skill and workmanship of the old pioneers of the anthracite coal region of Pennsylvania.

Tomhicken Colliery.

The breaker was idle during the whole year, and only such repairs were made as to put it in such condition that work can be resumed at a moments notice.

The inside work was confined to driving gangways, and tunnels, and to sinking solpes to develope the property.

Derringer Colliery.

The underground shaft mentioned in last year's report has been sunk, the top improvements made and the hoisting engine shifted, using the same engine in hoisting from both shafts, which are about four hundred feet apart.

The steam plant at Derringer has been entirely reconstructed and is giving general satisfaction.

Gowen Colliery.

At this colliery the only improvement was the driving of two tunnels in Slope No. 3.

G. B. Markle & Co.

Highland No. 1 Colliery.—A 15,000 gallon circular tank and connections and a six-inch Markle pump were installed.

A fourteen-foot column pipe from main bottom to surface. Old breaker was torn down and a landing made on top of slope; also connections made with the surface tracks leading to Highland No. 2 breaker, and a coal trestling for dumping supply coal at boiler rooms.

Highland No. 2.—A three inch water pipe line laid from Highland No. 1, connecting Freeland reservoir with Highland No. 2 boiler house.

Sturtevant fan boiler system was installed in boiler house.

Highland No. 4.—Hoisting engine was put in place and a new engine house built.

A slope was sunk from surface to lower split of Mammoth Vein, and an inside slope made from lower split to low part of Mammoth basin.

Four-inch steam pipe line was laid above ground from Highland No. 2 to Highland No. 4 and Highland No. 3. Boiler plant No. 3 was abandoned.

A new slate roof has been put on boiler house, and a new Climax boiler house has been built which is of larger dimensions than the old one that was destroyed by fire on November 6th, 1896.

Jeddo No. 5 Colliery.—The tunnel which was commenced in 1895 from the second lift gangway, to connect south and north pitches on the eastern end of south basin has been completed, and gangways have been opened east and west.

The tunnel from second lift to connect south basin from western end has been completed and gangways opened east and west.

A tunnel is now being driven from the bottom level to connect with old Pink Ash workings at the second lift gangway for the purpose of drawing water off and opening up these workings.

An airway opened to surface from South pitch of South basin. A Salkield & Roberts pump, size 28x48x12 inches, has been placed to pump to the surface through a 12-inch bore hole now being driven. A large sump has been constructed for this pump, which is connected with the main sump by a tunnel 55 feet long.

A large air compressor has been placed in position at this colliery for ventilating a part of the mines, and for propelling drills in the tunnels.

A new egg coal and two chestnut coal jigs of the Stroh pattern have been added to the plant.

Jeddo No. 4 Colliery.—A 24-feet Guibal fan and connections have been added to the plant and the air shaft for this fan is walled with solid masonry from the solid rock to the surface.

A 6-inch steam pipe line has been erected from the surface to the first lift.

Two short tunnels have been driven from the Mammoth to the Wharton veins.

Ebervale Colliery.—The old No. 1 Slope has been reopened and timbered from the surface to the bottom. Men are now reopening and timbering the gangways.

New boiler house has been built.

All the houses and store have been practically rebuilt.

The outcrop ditched on the north and south sides of this property have been opened and widened in order to carry off the surface water.

Harleigh.—The outcrop ditches have been opened and widened.

The water works system of this property has received considerable attention. A 3-inch bell pipe line has been laid leading from Jeddo No. 4 water works to Jeddo No. 4 thence to Oakdale village and thence to Ebervale.

At the western end of Oakdale village a 35,000 gallon circular railroad tank has been erected, and at Ebervale a 10,000 gallon tank of similar description has also been erected. A pipe line has been laid from the Oakdale tank through the village of Oakdale to which hydrants have been attached for the purpose of furnishing water to the employes.

An overflow pipe has been laid from this tank to the Jeddo No. 4 reservoir.

The Oakdale first south side pipe line which formerly stopped at No. 1 breaker has been extended to Oakdale first tank. A 3-inch pipe line has been laid from the Ebervale tank to the store, and from thence to the boiler house.

A 6-inch bore hole 596 feet deep has been driven at Jeddo, south side water works for an additional water supply.

Lehigh Coal and Navigation Company.

Colliery No. 1.—A battery of Erie tubular boilers of 200 horse power, with all connections complete, has been added to breaker boiler plant.

A 16x38x48 inch pump and column line has been erected along Nesquehoning creek to furnish additional water for washing coal at the breaker.

No. 1 Shaft.—The tunnel south to Buck Mountain Vein from North Dip Mammoth on the Balance Shaft level is at present driven in 375 feet.

No. 3 Slope.—The old Second Drift tunnel from the Primrose Vein to Mammoth has been continued 350 feet to cut the Buck Mountain Vein.

No. 4 Colliery.—The new fourth lift on Mammoth Vein has been put in operation and the third lift abandoned as a hoisting level.

Two 20x42x72 inch steam pumps have been placed on the fourth lift.

One additional 20x42x72 inch steam pump has been placed on the third lift.

The old 16x38x48 inch steam pump in Second level has been replaced by a 20x42x72 inch pump.

A steam and column way in the "Crack" vein from Fourth level to surface has been driven, thus reducing the danger from fire in Mammoth Vein.

Two batteries 1,000 horse power of Sterling boilers are in process of erection.

A car hoist plan and gravity roads have been constructed to take empty cars from breaker to slope.

No. 5 Colliery.—A tunnel has been driven from No. 4 Colliery, Third level to the Primrose Vein, with a view of opening up a third level at No. 5 by driving a shaft upward to meet No. 5 shaft.

No. 6 Colliery.—Foundations have been built for permanent coal hoisting engines, and the engines 32x60 inches, are being put in place at the shaft.

On the First lift, below water level, gangways and air connections and a mule way have been driven in the Crack Vein preparatory to tapping the water in No. 6 slope level.

Screen Building.—A section of about one-third of No. 1 screen building has been torn down and rebuilt which increases its capacity.

Lehigh Valley Coal Company, Lehigh Division Improvements, 1896.

A feature worthy of especial mention, has been the effort made by this company during the past year to lessen the danger from mine fire, by construction of stone walls, batteries, stoppings and overcasts in the air courses, slopes, steam and column ways and pump houses, also in boring holes for connecting steam to the pumps, and for exhausts for the same. The new fifth level pump house at Hazleton No 1 is entirely in rock, with a 12-inch steam hole direct to the surface.

I also commend the number of new outlets, traveling and fan ways, and the construction of the new 20-foot fan and brick house for same at Hazleton No. 1, and a 16-foot fan at Hazleton No. 3, which have very materially benefited the ventilation.

To profitably work in eastern end of the Hazleton property it was decided to consolidate Hazleton Nos. 2, 3 and 5 into a new colliery known as the Hazleton shaft.

Accordingly a shaft has been sunk to the solid rock, the sides being connected through the wash. The breaker walls have all been built and coped with concrete. The boiler house has been commenced, and a new slope is being sunk on the Wharton vein to act as a second opening, and also as a pump slope. This shaft will ultimately be sunk to the basin of the underlying veins.

Among other improvements we note at Hazleton No. 1:

A tunnel 275 feet long has been made from the Mammoth to the Wharton fifth lift. Also a tunnel 115 feet long from the Wharton to the overlap on the seventh lift.

A self acting plane has been made in the Wharton Vein between the fourth and fifth levels.

Two 8-inch bore holes from the surface to the third lift pump and two 12-inch bore holes from the surface to the fourth lift pumps have been made.

The provisions of the Mine law, Article XII, Rule 17, were complied with, and twenty men can now be hoisted at one time in two cars specially constructed and linked together.

New telephone service has been installed from the surface to the seventh level, with stations at the office, engine houses and intervening bottoms.

The boiler capacity has been increased by the erection of two 200 horse power Hazleton boilers.

The capacity of the breaker has been largely increased by the addition of new screens and jigs.

At Hazleton No. 3:

A tunnel from the Primrose to the overlying vein.

At Spring Mountain No. 1:

A new slope has been sunk in the Mammoth vein from the south edge of the strippings to the basin.

Upper Lehigh Colliery.—At this colliery during the year there was 154,000 cubic yards of earth removed at No. 5 stripping, and a surface road 4,700 feet long built to facilitate the hauling of stripping coal.

A 5-foot Sturtevant blower fan to aid in generating steam at No. 5 boiler house was installed.

The Yellow Spring artesian well, near No 7 slope, was sunk 200 feet deeper, to enable them to lower the pump and increase the water supply at the collieries.

Remarks on Fatal Accidents from September 7th to December 31st, 1896.

During this period sixteen persons lost their lives in and about the mines of the Fifth Anthracite District.

Six by falls of coal, rock and clay; four by cars inside and outside the mines; three by the explosion of boilers; one by permature blasts; one by machinery, and one from a miscellaneous cause.

By Fall of Coal, Rock and Clay.

Joseph Anseline, Austrian, miner, aged 28 years, was instantly killed on the 25th day of October, 1896, at No. 3 Colliery, Gowen, Pa.

I found upon investigation that deceased and his brother were working in breast No. 13, west gangway. The coal was very soft and shaley. Anseline was a miner of considerable experience, and had been drilling a hole while his brother was preparing a charge of powder for the same hole. After drilling the hole in four feet, deceased started to do some trimming on the face of the breast, when suddenly a fall took place in the breast, burying him, his brother being unable to render the necessary assistance. The ex-

amintaion proved beyond doubt that the deceased met his death by being smothered beneath the fall, there being no visible bruises on the body.

Frank Urban, Hungarian, miner, aged 48 years, married, was instantly killed on the 6th day of October at the Spring Brook colliery, Yorktown, Pa.

Deceased was working breast 21 in the Buck Mountain vein. He had undermined the top bench and fired a blast on the east rib of breast in the top bench. He and his laborer went back to the face of the breast, after firing the shot and they found that the bench was still hanging. The miner picked up the hammer, declaring he would knock it down. The laborer standing by cautioned him to come back, that it was drawing heavily and would soon fall of itself, to which the miner paid no attention, other than, "He could watch himself." The first blow of the hammer brought a slip from behind him, killing him instantly. This was due entirely to the reckless and unskilled method of the miner himself.

John Barnick, Hungarian, laborer, aged 35 years, married, was instantly killed on the stripping at the Beaver Brook Colliery, on the 12th day of October, 1896.

Deceased was laboring on stripping loading coal. The miner had fired a shot and retreated to a place of safety. Upon his return he made a careful examination of the place by sounding it and declared it safe, whereupon the men started to load the car. When the car was partly loaded a piece of the hanging bench broke away from an unseen slip, fell upon him, causing instant death. I found by the investigation that the miner was a man of experience in mining, and he had taken the precaution by sounding the place and taking down the loose coal with a drill, before declaring it to be safe.

He having complied with the requirements of the law could not be held responsible, the cause of accident was unforseen, therefore was unavoidable.

James Brislin, Irish, miner, aged 55 years, was fatally injured on October 14th, at the No. 4 Colliery, Jeddo, Pa.

I went to the scene of the accident and made an examination of the mine. I found that he had over twenty years of experience as a miner, but at this particular time he was about to fire a blast, at the face of the breast, and retreated through a cross heading to an abandoned breast for safety; while standing close to the rib as miners do, he suddenly heard the report of the blast in his own working place and immediately following the blast a lump of coal about half a ton in weight fell from the pillar of the abandoned breast knocking him down and rolling upon him.

He was taken to his home where he died on the following day. It was evident that had the deceased made an examination of the pillar, he would have certainly made it safe by taking the loose pieces down and the accident would have been averted.

Christian Ulrich, American, laborer, aged 23 years, was fatally injured on November 10th, at the Highland Colliery No. 2.

I visited the scene of the accident. He was employed by his brother as laborer in the gangway. There was a piece of rock in the gangway and it seemed to be loose. Wm. Ulrich the miner wanted to bar it down, but Christian remarked that a few more shovels full would fill the car, then he could take it down.

William then went back a short distance from face of gangway while the car was being loaded. He returned in a short time and found that the rock had fallen, injuring his brother seriously about the head and body. His injuries consisted of a fractured skull, together with a number of cuts and bruises. He was taken to his home where he died seven days later.

The miner alone in my opinion was responsible, for when he knew that the rock was unsafe, he should have taken it down, irrespective of what those employed by him might have said. Had he barred the rock down, which is the duty of a miner at all times, the accident would not have occurred.

George Tanahaha, Hungarian, miner, aged 31 years, married, was instantly killed December 2d, at No. 5 Cranberry.

I made an investigation of the place where accident occurred. This man had been driving a cross-heading through the pillar and the coal was full of slips. He had driven in the pillar neglecting to put in props which were for his own safety until he had room for several props, he started by cutting the hitches when suddenly a slip fell out upon him, causing his instant death and seriously injuring his partner.

The foreman had given strict orders concerning propping as the ground demanded it, and showed the man the importance of propping, and gave him the props to put in whenever they had the room cut for them, still they were neglected.

It is a common practice among miners to at times put off timbering until they accomplish certain other things. Of the risks there may be in connection with the delay, they appear to give little or no heed, and this was an example where the miner in neglecting to obey the orders of the mine foreman, sacrificed his own life.

Fatal Accidents by Mine and Railway Cars Inside and on the Surface.

John Bedner, Hungarian, laborer, aged 50 years, married, was instantly killed on the 17th of September, 1896, at Colliery No. 7, Stockton, Pa.

I visited the scene of the accident and made an examination of the place and of the men who were first to appear after the accident occurred. I found that it was a hard matter to get any information as to how the accident occurred. I returned to Hazleton notified the Deputy Coroner, J. H. Bowman, M. D., who empannelled a jury and held the inquisition. After listening to the testimony of the witnesses, the jury returned the following verdict: "That John Bedner came to his death on the 17th of September, 1896, at Stockton No. 7 Colliery operated by the Cross Creek Coal Company. The jury do further say that he came to his death by being caught between an upright breaker and railroad car which squeezed him to death. That he was not in this part of the colliery by the orders of the foreman or the superintendent of said colliery, and therefore came to his death through his own negligence. Deputy Coroner, J. H. Bowman, M. D. Jury: Frank T. Slattery, foreman; S. J. Hughes, D. J. Hill, John B. Krapt, F. J. McNeal, P. J. Brislin.

Caesari Colovini, Austrian, miner, aged 26 years, was instantly killed on the 28th of September, 1896, at Colliery No. 2, Drifton, Pa.

I went to the scene of the accident and made an investigation of the cause. I found that deceased worked on the west side of the slope, but owing to the absence of his partner he consented to labor for the day with John Fait, on the east side of said slope. Calvin Dietrich, bottom driver, cautioned both men to keep behind the car, and they would be perfectly safe; this they did until nearing the bottom of the slope, when deceased ran to the front of mule across the bottom of slope.

Here James Ward, the bell-man, shouted to Colovini to stand still, but unheeding he attempted to recross the bottom of slope and was knocked down by the mule and doubled up under the car and instantly killed.

There is no doubt that had the deceased listened to the warnings of the driver and bell-man he would be living to-day.

Hugh Gallagher, Irish, laborer, aged 55 years, married, was instantly killed on the 30th day of September, 1896, at Highland breaker No. 2.

I examined the scene and found that deceased had been employed outside in cleaning roads, attending latches, etc. He had been following this routine day after day, becoming very familiar with the work. On the morning of the accident the cars as usual were being

pushed up to the rock chute. Deceased stood at the latches until knocked down by the first car, when both cars ran over his body, causing instant death. John Klopsky, a rock dumper, heard the engineer blow the whistle, he called to Gallagher to get out of the way of the approaching train, but he could not attract deceased's attention as he seemed to be in a stupor and remained standing in the middle of the track until he was struck by the cars.

Joseph Mechick, Hungarian, driver, aged 20 years, was fatally injured at 10 o'clock A. M., on October 17th, at Spring Brook Colliery, Yorktown, Pa.

Joseph was employed as a driver on the shaft level, and while bringing a trip of cars out of the gangway, it is supposed that he slipped and fell the cars passing over both legs. This was a sad accident. He was taken to the State Hospital at Hazleton, where he died at 3.25 P. M., of the same day.

Fatal Accidents by Boiler Explosions and Machinery.

At Harwood No. 2 Colliery, operated by Calvin Pardee & Company, a disastrous boiler explosion occurred at noon, September 28th, in which John Guntra, Hungarian, hitcher, aged 20 years, was instantly killed.

Same date, John Hollop, Hungarian, fireman, aged 37 years, was fatally injured at 9.50.

Mike Casper, Hungarian, fireman, aged 36 years, was also fatally injured and taken to State Hospital at Hazleton, where he died on October 6th.

I visited the scene of the accident on the following morning and upon investigation I found that the explosion had taken place in a nest of three cylinder boilers, thirty feet in length and thirty-three inches in diameter. The wrecked condition of the place showed that the explosion was a terrible one, making havoc of the boiler house and surroundings. The force of the explosion carried the boiler out of the room south a distance of 200 feet.

The stories told by those working around the boiler room were so conflicting, that the matter was referred to Deputy Coroner J. H. Bowman, M. D., who empanelled a jury and held an inquisition on the body of John Hollop. The jury viewed the remains then went to the scene of the accident and heard the testimony of the witnesses in the case; the coroner and jury returned to the Hazleton City building, and rendered the following verdict:

"That after listening to the testimony of the witnesses in the case, the jury do find that John Hollop, came to his death by the explosion of a boiler at the No. 2 Colliery, at Harwood, Pa. That we the jury do further say that the said John Hollop came to his death through

the negligence of the fireman, Joseph Kasper, in allowing the boiler to become empty of water causing an explosion resulting as before mentioned. Deputy Coroner J. H. Bowman, M. D. Jury: F. T. Slattery, foreman; D. D. Warner, W. T. Sherman, D. J. Hill, Thomas H. Hall, J. T. Davies."

John Flatho, Slavonian, aged 16 years, employed as slate-picker at the Derringer Colliery, operated by the Cross Creek Coal Company, was fatally injured by slipping down a chute on the breaker November 26th, 1896.

I went to the scene of the accident and upon investigation found that the boy was away from his work at some other portion of the breaker and on his return he slipped into the chute leading to the rolls and before the breaker machinery could be stopped he was crushed in the rollers. His injuries were of so serious a nature that he died shortly after he was taken home. An examination of the chute showed that every precaution had been taken to insure safety. When constructing the chutes, all places other than the space 5x11 inches, as it was in this case, are properly covered, in accordance with the mine law. The facts in the case show that the boy himself was the only person who could have prevented the accident, had he come down the chute with more care.

Fatal Accidents by Permature Blast.

Samuel Kemp, English, miner, aged 27 years, married, was instantly killed on the 31st day of December, 1896, at the Milnesville Stripping, operated by A. S. VanWickle.

I made an investigation of the accident on the following morning. He was a miner and was blasting rock on the stripping, and at the time was about to fire two charges of powder; he evidently intended to fire both shots as nearly at one time as possible, which is frequently done in all mining.

Deceased taking a match from his pocket ignited the fuse on charge No. 1 and made three attempts to ignite charge No. 2, when fearing the explosion of charge No. 1 he retreated to a place of safety, evidently with the impression that he had failed to ignite the fuse on charge No. 2, for immediately following the discharge of No. 1 he hurried to ignite No. 2, and while in a stooping position to ignite the fuse the explosion took place blowing him to atoms. This however is not a strange occurrence in mining, and should be a lesson to all miners not to be too anxious, when firing blasts in the mines or on the strippings. There is no question in my mind that had deceased used the ordinary precaution that all miners should use at this particular work, he would be alive to-day.

Fatal Accidents from Being Scalded.

Nicholas Bugner, outside laborer, aged 26 years, was fatally injured by being scalded at Colliery No. 4 Jeddo, Pa., October 6th.

I visited the scene of the accident, which occurred in the boiler house of said colliery. Bugner and two other laborers were engaged in cleaning out boiler flues. The first having been drawn the night before, the dust was still hot and he took the hose and turned on the water to settle the dust and thinking it cool enough to work, and through his eagerness to complete the work and make the shift in as short a time as possible, he taking a shovel with him, deliberately plunged into the boiling mass scalding both legs severely, and in endeavoring to escape further injury he scalded both arms. His calls for help brought his fellow laborers to his rescue, he in this suffering condition begged them to pour cold water over him, which they did in order to relieve him. He was then taken to the State Hospital at Hazleton, where he died on the following day. This man had been doing this work at all of the collieries under the company, and was considered a careful man, yet it was carelessness on the part of the victim in his haste to make the day's work in as short a time as possible.

Table No. 1.—Showing location, etc., of collieries in the Fifth Anthracite District.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Postoffice Address.
Cambria,	A. Pardee & Co.,	Luzerne,	Frank Pardee, gen'l supt.,	Hazleton.
East Crystal Ridge,	A. Pardee & Co.,	Luzerne,	Frank Pardee, gen'l supt.,	Hazleton.
Drifton Nos. 1 and 2,	The Cross Creek Coal Co.,	Luzerne,	Luther C. Smith, gen'l supt.,	Drifton.
Eckley Nos. 2, 6 and 10,	The Cross Creek Coal Co.,	Luzerne,	Edgar Kudlich, mining engineer,	Drifton.
Stockton Nos. 3 and 7,	The Cross Creek Coal Co.,	Luzerne,		
Beaver Meadow Nos. 1 & 2,	The Cross Creek Coal Co.,	Carbon,		
Tomhicken,	The Cross Creek Coal Co.,	Luzerne,	John Rowland, supt. of preparation,	Drifton.
Deringer,	The Cross Creek Coal Co.,	Luzerne,		
Gowen,	The Cross Creek Coal Co.,	Luzerne,		
Calvert No. 1,	Lehigh Coal and Navigation Co.,	Carbon,	W. D. Zehner, gen'l supt.,	Drifton.
Calvert No. 4,	Lehigh Coal and Navigation Co.,	Carbon,	W. D. Zehner, gen'l supt.,	Lansford.
Calvert No. 5,	Lehigh Coal and Navigation Co.,	Carbon,	Baird Snyder, assistant supt.,	Lansford.
Calvert No. 6,	Lehigh Coal and Navigation Co.,	Carbon,	Thos. M. Whildin, inside supt.,	Lansford.
Calvert No. 9,	Lehigh Coal and Navigation Co.,	Carbon,		
Jeddo No. 4,	G. B. Markle & Co.,	Luzerne,	John Markle, general superintendent,	Lansford.
Highland No. 2,	G. B. Markle & Co.,	Luzerne,	Samuel Dunkerly, inside supt.,	Jeddo.
Highland No. 5,	G. B. Markle & Co.,	Luzerne,		
Hazleton No. 1,	Lehigh Valley Coal Co.,	Luzerne,	W. A. Lathrop, general superintendent,	Wilkes-Barre.
Hazleton No. 2,	Lehigh Valley Coal Co.,	Luzerne,		
Hazleton No. 3,	Lehigh Valley Coal Co.,	Luzerne,		
Hazleton No. 5,	Lehigh Valley Coal Co.,	Luzerne,		
Hazleton No. 6,	Lehigh Valley Coal Co.,	Luzerne,		
Spring Mountain No. 1,	Lehigh Valley Coal Co.,	Luzerne,	David MacFarlane,	Hazleton.
Spring Mountain No. 4,	Lehigh Valley Coal Co.,	Luzerne,	David MacFarlane,	Jeansville.
Spring Brook Nos. 1 and	Lehigh Valley Coal Co.,	Carbon,	Col. D. P. Brown, division supt.,	Jeansville.
Milnes,	A. S. Van Wickle,	Luzerne,	James E. Roderick, gen'l supt.,	Lost Creek.
Coleraine,	A. S. Van Wickle,	Carbon,	James E. Roderick, gen'l supt.,	Hazleton.
Lattimer No. 1,	Calvin Pardee & Co.,	Luzerne,	A. W. Drake, superintendent,	Hazleton.
Lattimer No. 2,	Calvin Pardee & Co.,	Luzerne,	A. W. Drake,	Lattimer.
Hollywood,	Calvin Pardee & Co.,	Luzerne,	A. W. Drake,	Lattimer.
Harwood,	Calvin Pardee & Co.,	Luzerne,	A. W. Drake,	Lattimer.
Upper Lehigh,	Upper Lehigh Coal Co.,	Luzerne,	A. C. Leisenring,	Lattimer.
Tresckow No. 2,	Lehigh and Wilkes-Barre Coal Co.,	Carbon,	E. H. Lawall, general superintendent,	Upper Lehigh.
Tresckow outcrops,	Lehigh and Wilkes-Barre Coal Co.,	Carbon,	D. R. Roberts, assistant supt.,	Wilkes-Barre.
E. Sugar Loaf Nos. 1, 2 & 6,	Linderman & Skeer,	Luzerne,	Gomer E. Jones, superintendent,	Audenried.
E. Sugar Loaf Nos. 4 & 5,	Linderman & Skeer,	Luzerne,	Gomer E. Jones, superintendent,	South Bethlehem.
Sandy Run,	M. S. Kemmerer & Co.,	Luzerne,	Walter Leisenring, superintendent,	Sandy Run.
Hazle Brook,	J. S. Wentz & Co.,	Luzerne,	George Reichert, superintendent,	South Bethlehem.
Beaver Brook,	C. M. Dodson & Co.,	Luzerne,	E. L. Bullock, superintendent,	Audenried.
Evans Colliery,	The Evans Mining Co., (F. S. Duncan Receiver).	Carbon,	Stewart Kennedy, superintendent,	Hazle Brook.
Ebervale Nos. 1 and 2,	New Ebervale Coal Co.,	Luzerne,	John G. Scott, superintendent,	Ebervale.

TABLE No. 2.—Gives the total number of tons of coal mined in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder used, etc., in the Fifth Anthracite District for the year ending December 31, 1896.

Names of Collieries.	Location—County.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Number of pounds dynamite used.
A. Pardee & Co.												
Cranberry	Luzerne,	45,673.03	28,675.03	48.80	562	.....	.....	1,082	58	80	6	850
East Crystal Ridge,	Luzerne,	101,771.03	95,374.17	211.20	299	.....	.....	2,817	17	38	1	6,500
Total,		147,444.06	124,050.00	130.00	861	1	7	3,899	75	118	7	7,350
Cross Creek Coal Company.												
Drifton Nos. 1 and 2,	Luzerne,	279,768.10	253,973.05	197.00	689	.....	.....	5,600	78	103	5	3,531
Eckley (including Buck Mountain),	Luzerne,	178,535.13	160,330.16	211.00	483	.....	.....	2,581	23	56	4	16,498
Stockton,	Luzerne,	191,871.14	176,224.17	182.00	505	.....	.....	4,042	22	27	2	10,526
Beaver Meadow,	Carbon,	91,396.02	68,690.04	157.00	396	.....	.....	1,716	34	31	3	11,812
Tomhicken,	Luzerne,	1,158.10	741.10	.....	25	.....	.....	175	1	6	.....	2,132
Derringer & Gowan,	Luzerne,	286,821.04	259,761.02	230.00	695	.....	.....	5,164	24	111	5	8,055
Total,		1,029,551.13	918,821.14	195.04	2,793	10	10	19,278	182	334	19	52,554
Lehigh Coal and Navigation Company.												
Colliery No. 1,	Carbon,	248,135.07	230,323.07	177.20	683	.....	.....	2,040	29	102	7	46,500
Colliery No. 4,	Carbon,	175,619.17	154,943.11	176.40	370	.....	.....	780	44	52	.....	10,900
Colliery No. 5,	Carbon,	156,302.12	141,411.15	180.10	284	.....	.....	1,440	9	48	2	7,500

Colliery No. 1	Carbon				213				16		1	4,500
Colliery No. 2	Carbon	204,054.12	197,112.00	178.30	410			240	14	74	3	4,150
Screen Building	Carbon	12,964.00		273.60	276				14	4	3	
Total		797,276.08	723,790.13	197.30	2,230	2	4	4,520	126	280	16	73,550
G. B. Markle & Co.												
Jeddo No. 4	Luzerne	271,593.02	236,918.02	178.40	585			6,177	53	76	7	22,897
Highland No. 1	Luzerne	286,550.04	275,600.04	175.20	499			5,982	15	75		12,162
Highland No. 2	Luzerne	157,996.06	135,366.06	183.40	414			4,228	41	54	1	16,765
Total		716,139.12	647,884.12	179.00	1,498	4	12	16,387	109	205	8	51,824
Lehigh Valley Coal Co.												
Hazleton No. 1	Luzerne	265,792.02	194,963.02	184.95	795			4,237	14	60	2	9,563
Hazleton No. 2	Luzerne				39			27	13	7		283
Hazleton No. 3	Luzerne	126,374.15	91,104.15	191.45	495			2,435	30	35	2	7,884
Hazleton No. 5	Luzerne	11,175.04	8,828.04	24.10	405			489	4	3	1	315
Hazleton No. 6	Luzerne				6				6	1		
Spring Mountain No. 3	Luzerne	124,317.06	109,241.06	187.40	285			542	23	38	1	738
Spring Mountain No. 4	Luzerne	136,974.17	119,404.17	200.60	326			1,769	45	41	2	1,931
Spring Brook 1 and 2	Carbon	144,291.08	126,359.18	162.60	228			1,354	3	10	5	53,825
Total		808,925.12	649,902.02	158.30	2,579	8	13	10,814	138	195	13	74,539
A. S. Van Wickle.												
Milnesville	Luzerne	391,981.18	313,914.08	287.70	817			5,791	127	92	4	223,463
Coleraine	Carbon	282,186.06	229,913.06	216.00	663			3,547	93	78	3	38,125
Total		674,168.04	543,827.14	251.80	1,480	3	4	9,338	220	170	7	261,588
Calvin Pardee & Co.												
Lattimer No. 1	Luzerne	164,916.14	134,355.11	195.35	406		4		37		4	
Lattimer No. 2	Luzerne	213,567.02	192,949.07	199.50	467		5		26		4	
Washery	Luzerne	10,114.16	7,082.16	40.85	24							
Stirling	Luzerne				337		4	10,280	5	100	2	100,775
Hollywood	Luzerne	77,397.18	56,399.11	150.50	254		2	1,460	28	29	1	79,450
Harwood	Luzerne	215,863.12	174,158.12	193.60	890	4	3	7,500	55	68	1	11,100
Total		681,858.02	564,945.15	155.90	2,378	4	18	19,240	151	197	12	191,325
Upper Lehigh Coal Company.												
Upper Lehigh	Luzerne	263,629.18	222,921.18	192.70	666	2	3	5,362	82	197	5	4,465

Table No. 2.—Continued.

Names of Collieries.	Location—County.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Number of pounds dynamite used.
M. S. Kemmerer & Co.												
Sandy Run,	Luzerne,	130,280.08	121,068.00	207.00	412	1	1	1,175	37	46	2	13,700
Lehigh and Wilkes-Barre Coal Co.												
Trescow No. 2,	Carbon,	133,400.02	110,915.07	162.00	459	1	3	246	35	25	3	18,415
C. M. Dodson & Co.												
Beaver Brook,	Luzerne,	193,414.00	166,427.00	182.20	497	1	4	4,801	55	53	1	998
J. S. Wentz & Co.												
Hazle Brook,	Luzerne,	88,000.00	81,463.08	174.00	365	2	4	2,708	19	25	1	3,600
Linderman & Skeer.												
East Sugar Loaf Nos. 2 and 5,	Luzerne,	121,693.00	87,813.00	61.00	1,031	2	6	1,584	140	117	4	23,297
The Evans Mining Company.												
Evans Colliery,	Carbon,	40,000.00	32,963.05	245.80	177	1	1	1,151	6	12	.....	8,770
The New Ebervale Coal Co.												
Ebervale Washery,	Luzerne,	46,703.15	45,627.15	199.20	142	....	1	.....	12	4	1	.....

Recapitulation. Table No. 2.—Continued.

Names of Collieries.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Number of pounds dynamite used.
A. Pardee & Co.,	147,444.06	124,050.00	130.00	861	1	7	3,899	75	80	7	7,353
Cross Creek Coal Company,	1,029,551.13	918,821.14	195.40	2,736	10	10	19,278	182	334	10	52,554
Lehigh Coal and Navigation Company,	797,276.08	723,790.13	197.30	2,230	2	4	4,300	126	280	16	73,550
G. B. Markle & Co.,	716,139.12	647,884.12	179.00	1,498	4	12	16,387	109	205	8	51,824
Lehigh Valley Coal Company,	808,925.12	649,912.02	158.30	2,579	8	13	10,814	138	195	13	74,520
A. S. Van Wickle,	674,168.04	543,827.14	251.80	1,480	3	4	9,338	220	170	7	261,588
Calvin Pardee & Co.,	681,800.02	564,915.15	155.90	2,378	4	18	19,240	154	197	12	101,325
Upper Lehigh Coal Company,	263,629.18	222,921.18	192.70	666	2	2	5,362	82	107	5	4,465
M. S. Kemmerer & Co.,	130,280.08	121,068.00	207.00	412	1	1	1,175	37	46	2	13,700
Lehigh and Wilkes-Barre Coal Company,	133,400.02	110,915.07	162.00	459	1	3	246	35	25	3	18,415
C. M. Dodson & Co.,	193,414.00	166,427.00	182.20	497	1	4	4,801	55	53	1	998
J. S. Wentz & Co.,	88,000.00	81,463.08	174.00	365	2	4	2,708	19	25	1	3,600
Linderman & Skeer,	121,693.00	87,813.00	61.00	1,031	2	6	1,584	140	117	4	23,297
Evans Mining Company,	40,000.00	32,963.05	245.80	177	1	1	1,151	6	12	.....	8,750
New Ebervale Coal Company,	46,703.15	45,627.15	199.20	142	.....	1	.....	12	4	1	.....
Total,	5,872,427.00	5,042,432.02	179.50	17,568	42	91	109,283	1,387	1,859	99	785,936

TABLE No. 3.—Showing the number of each class of employes at each colliery in the Fifth Anthracite District during the year 1896.

Name of Collieries.	Number of Persons Employed Inside.							Number of Persons Employed Outside.								
	Inside foremen.	Miners.	Miners' laborers.	All company men	Drivers and runners.	Door boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All other company men.	Superintendents, Bookkeepers and clerks.	Total outside.	Grand total, inside and outside.
A. Pardee & Co.															
Cranberry	7	254	56	29	32	13	391	1	16	25	40	87	2	171	562
East Crystal Ridge	3	91	84	8	12	5	203	1	5	9	25	56	.....	96	299
Total	10	345	140	37	54	18	594	2	21	34	65	143	2	267	861
Cross Creek Coal Company.															
Drifton Nos. 1 and 2	2	193	15	112	37	17	376	2	.....	32	185	88	6	313	689
Eckley (including Buck Mountain)	4	94	21	59	23	5	206	2	.....	25	182	67	1	277	483
Stockton	1	186	8	47	14	8	264	.....	.....	14	147	77	1	241	505
Beaver Meadow	3	62	9	44	15	3	136	2	.....	22	168	67	1	260	396
Tomhicken	1	4	8	4	2	3	22	.....	.....	.....	1	1	1	3	25
Derringer and Gowan	4	234	45	104	40	13	440	2	.....	32	161	59	1	255	695
Total	15	773	106	370	131	49	1,444	10	.....	125	841	359	11	1,349	2,793
Lehigh Coal and Navigation Company.															
Colliery No. 1	9	162	67	102	38	37	415	1	9	28	97	132	1	268	683
Colliery No. 4	4	28	11	162	17	11	233	1	3	18	60	55	.....	137	370
Colliery No. 5	4	33	29	56	11	5	158	1	4	12	38	51	.....	126	284

Colliery No. 6	1	35	49	63	18	8	167		4	12	....	20	....	46	213
Colliery No. 9	2	68	55	87	17	1	230	3	6	15	84	71	....	177	410
Screen Building	....	....	....	....	....	....	....	3	4	13	169	83	....	270	270
Total	22	346	202	470	101	65	1,206	6	20	98	168	421	1	1,024	2,230
G. B. Markle & Co.															
Jeddo No. 4	2	139	84	195	29	14	373	1	18	14	83	89	7	212	585
Highland No. 5	2	108	116	30	32	7	295	1	18	13	79	87	6	204	499
Highland No. 2	1	92	44	79	22	7	245	1	15	18	54	75	6	169	414
Total	5	339	244	214	83	28	913	3	51	45	216	251	19	585	1,498
Lehigh Valley Coal Company															
Hazleton No. 1	3	175	84	77	32	3	374	2	29	18	126	242	4	421	795
Hazleton No. 2	1	....	....	17	....	....	18	1	3	7	....	10	....	21	39
Hazleton No. 3	2	84	37	74	8	1	206	1	17	10	89	169	3	289	495
Hazleton No. 5	1	117	42	30	8	3	201	1	10	13	108	71	1	204	405
Hazleton No. 6	....	....	....	1	....	....	1	....	....	1	....	4	....	....	6
Spring Mountain No. 1	2	27	51	18	21	....	119	1	9	13	79	62	2	166	285
Spring Mountain No. 4	2	73	44	22	25	4	170	1	8	15	76	54	2	156	326
Spring Brook colliery	2	98	105	34	12	2	253	2	7	22	71	65	2	169	422
Spring Mountain stripping	....	....	....	....	....	....	....	....	7	16	....	204	1	228	228
Total	13	574	363	273	106	13	1,342	9	90	115	549	881	15	1,660	3,001
A. S. Van Wickle.															
Minnesville colliery	2	16	22	73	5	....	118	1	18	25	70	280	3	397	515
Cobergame	8	97	167	31	27	....	330	7	20	33	80	190	3	333	663
Minnesville stripping	....	....	....	....	....	....	....	....	....	....	....	....	....	302	302
Total	10	113	189	104	32	....	448	9	38	58	150	470	6	1,032	1,480
Calvin Pardee & Co.															
Lattimer No. 1	3	13	79	22	19	....	136	1	15	22	135	97	....	270	406
Lattimer No. 3	4	14	102	16	34	....	170	2	13	15	162	105	....	297	467
Lattimer washery	....	....	....	....	....	....	....	1	1	1	....	21	....	24	24
Lattimer strippings	....	2	25	5	3	....	35	11	11	21	....	259	....	302	337
Hollywood	1	13	15	2	8	....	39	1	7	14	54	48	....	124	163
Hartwood	2	12	22	2	4	....	42	....	1	2	....	46	....	49	91
Hollywood strippings	5	236	159	26	36	22	484	1	18	34	192	161	10	416	900
Total	15	290	402	73	104	22	906	27	66	109	543	737	10	1,482	2,388
Linderman & Skeer.															
East Sugar Loaf No. 1	....	14	12	27	6	....	77	1	2	4	....	17	....	24	81

Table No. 3.—Continued.

Name of Collieries.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							
	Inside foremen.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All other company men.	Superintendents, bookkeepers and clerks.	Total outside.	Grand total, inside and outside.
East Sugar Loaf No. 2.	1	65	104	70	27	9	276	1	4	16	130	95	.....	246	522
East Sugar Loaf No. 6	1	34	29	25	11	1	101	1	2	11	.....	16	.....	30	131
East Sugar Loaf Nos. 4 and 5.	1	75	50	14	20	3	163	1	3	12	60	53	5	134	297
Total,	3	188	195	134	64	13	597	4	11	43	190	181	5	434	1,031
Upper Lehigh Coal Co.															
Upper Lehigh colliery.	4	127	150	47	41	4	373	4	19	51	99	114	6	293	666
M. S. Kemmerer & Co.															
Sandy Run colliery,	2	69	87	29	24	1	212	2	8	22	60	100	8	200	412
Lehigh and Wilkes-Barre Coal Company.															
Treskow No. 2.	2	57	34	187	15	4	299	1	7	27	69	50	1	146	445
C. M. Dodson & Co.															
Beaver Brook Colliery,	2	94	96	32	22	10	256	1	10	22	97	106	5	241	497
J. S. Wentz & Co.															
Hazle Brook Colliery,	2	95	32	12	43	4	188	1	5	19	133	14	5	177	365

The Evans colliery.

The New Ebervale Coal Company.

Ebervale washery.

12-11-96

Recapitulation.

A. Parker & Co.	30	335	140	37	54	18	504	21	21	34	65	193	2	295	861
Coal Creek Coal Company.	15	773	106	370	131	49	1,444	10	125	544	339	11	1,339	2,793
Lehigh Coal and Navigation Company.	231	346	202	470	101	65	1,206	6	56	468	421	1	1,024	2,230
G. B. Markle & Co.	339	244	214	83	58	913	3	45	226	271	19	587	1,498
Lehigh Valley Coal Company.	13	574	362	273	106	16	1,332	9	113	549	287	15	1,060	3,001
A. S. Van Wickle.	10	113	189	164	32	498	9	38	158	150	170	6	1,032	1,480
Calvin Pardee & Co.	15	290	402	73	104	22	906	27	109	543	735	10	1,422	2,388
Lederman & Skeer.	3	188	195	124	64	13	597	4	43	161	157	5	484	1,081
Upper Lehigh Coal Company.	4	127	150	47	41	4	373	4	11	99	114	6	233	606
M. S. Kemmerer & Co.	21	69	87	26	24	4	212	2	19	81	99	10	209	412
Lehigh and Wilkes-Barre Coal Company.	31	34	34	187	15	4	266	1	4	52	64	1	146	445
J. M. Hodson & Co.	94	96	32	32	10	276	1	10	22	95	16	211	497
J. S. Wentz & Co.	2	95	32	12	43	4	188	1	15	23	33	14	177	395
The Evans colliery.	1	50	54	6	8	3	122	1	4	8	7	1	35	157
New Ebervale Coal Company.								5	3	4	82	66	2	142	142
Total.		146	3,460	2,294	1,068	85	294	8,960	85	282	780	3,557	3,912	98	9,087	17,986

TABLE No. 4.—List of Fatal Accidents that occurred in and about the mines of the Fifth Anthracite District for the year ending December 31, 1896.

Date of accident.	Number of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 16.	1	Patrick McManaman.	Miner.	40	....	....	Hazleton No. 3.	Luzerne.	Instantly killed by a fall of clod at the face of breast. He was considered a careful miner, but by neglecting to stand a prop, which was within reach, he lost his life.
18.	2	John Laushausky.	Roll [illegible].	25	....	....	Eckley breaker.	Luzerne.	Fatally injured by being caught in the rolls; why and how he was caught is not known. He died at the hospital the same night.
18.	3	Patrick Boyle.	Miner.	55	1	1	Spring Brook No. 2.	Carbon.	Instantly killed by a fall of coal on the gangway. He was working breast No. 2.
23	4	Carl Alexandrovich.	Laborer.	25	....	....	Stockton No. 5.	Luzerne.	Instantly killed; while assisting to reopen a gangway, he was in the act of drilling a hole, a rush of loose coal came down, causing the accident.
30.	5	Jacob Pasko.	Jackman.	35	1	....	Jeansville No. 4 stripping.	Luzerne.	Instantly killed by a piece of frozen clay rolling on him, while at work setting jack blocks.
Feb. 11.	6	Peter Sidina.	Patcher.	16	....	....	Upper Lehigh No. 8.	Luzerne.	Instantly killed by a mine car striking stop blocks; they jumped the track crushing the boy between the car and gangway timber.
13.	7	John Bruncort.	Miner.	26	1	1	Lansford No. 6.	Carbon.	Smothered by a rush of coal while opening a breast in a pillar.
20.	8	Lucas Kasmarich.	Laborer.	28	1	1	Sandy Run.	Luzerne.	Instantly killed by a car being run down the slope without the chain, due to carelessness of the topman.

Mar.	9	20	Joseph Pero	Timberman				Derringer	Luzerne		Instantly killed by a fall of rock by neglect on part of deceased and the miner he worked with.
Mar.	9	9	Joseph Perry	Miner	38	1	4	Hazleton No. 1	Luzerne		Killed by a fall of top rock at the face of a proving hole in the Wharton vein.
	2	11	Frank Jones	Laborer	62	1		Drifton breaker	Luzerne		Killed by being crushed between a railway car and a foundation pillar.
	29	12	Thomas Clark	Miner	38	1	3	Hazle Brook	Luzerne		Instantly killed by a fall of rock at the face of gangway.
Apr.	8	21	Frank Lesko	Miner	44	1	4	Stockton No. 2	Luzerne		Instantly killed by a piece of rock falling upon him while working at the battery.
	24	24	John Lewesker	Miner	25			Harwood	Luzerne		Fatally injured near face of gangway by a fall of clod.
	26	15	Wassel Sosko	Laborer				Derringer	Luzerne		Instantly killed by falling down a shaft, depth of 70 feet.
					27			Evans colliery	Carbon		Instantly killed by a fall of clod.
May	21	26	John Kaczka	Laborer	43	1	3	Coleraine	Carbon		Instantly killed by being struck by a mine car on the slope.
June	3	27	George Voyte	Miner							
	30	28	Edward Pugh	Miner	50	1	3	Drifton No. 2	Luzerne		Instantly killed by the bursting of a battery at the bottom of breast.
	30	30	Edward McAvoy	Headman	18			Spring Mt. stripping	Luzerne		Fatally injured by being struck by a piece of rock.
July	20	22	Joseph Matchok	Laborer				Haut's screen building	Carbon		Instantly killed by falling into the machinery at breaker.
July	25	26	Joseph Casey	Laborer	33	1	3	Milnesville stripping	Luzerne		Instantly killed by a truck on the stripping.
	3	2	George Freshest	Miner	23			Drifton No. 1	Luzerne		Instantly killed by a fall of top coal
Aug.	4	24	John Popcis	Laborer	32	1		Upper Lehigh	Luzerne		Instantly killed by a fall of top coal, which broke away from a long slip.
	2	24	John Seltzer	Screen boss	21			Hazle Brook	Luzerne		Instantly killed by being caught by screen shaft in breaker.
	22	27	John Hadessy	Laborer	27			Hazleton No. 1	Luzerne		Instantly killed by the breaking of a latch pin which caused the dump car to fall on him.
Sept.	7	20	Frank Mayosskey	Laborer	33			Treskow No. 2	Carbon		Fatally injured by rock flying from a blast on the stripping. Died at the State hospital, September 21.
	17	27	John Bober	Laborer	50			Stockton No. 7	Luzerne		Instantly killed by being crushed between railroad cars and the breaker timber.
Sept.	27	28	Joseph Mesko	Miner	28			Gowan No. 3	Luzerne		Instantly killed by a fall of coal at face of breast while preparing to fire a shot.
	28	29	Cesari Colarini	Miner	29			Drifton No. 2	Luzerne		Instantly killed by mine cars while crossing the tracks at bottom of slope.

Table No. 4.– Continued.

Date of accident.	Number of accident.	Name of Person.	Occupation.	Age.	Widows.	Number of orphans.	Name of Colliery.	Location- County.	Nature and Cause of Accident.
	28. 30	John Guntla,	Hitcher,	20	....	....	Harwood No. 2,	Luzerne,	Guntla was instantly killed and Hollop and Casper fatally injured by an explosion of boiler at number 2 colliery, Harwood, at 12.45 A. M., September 28. The colliery was not working at the time of the accident. The cause of explosion was due to the fireman, Joseph Casper, neglect in not looking after the feed water in time.
	28. 31	John Hollop,	Fireman,	37	1	....	Harwood No. 2,		
	28. 32	Mike Casper,	Fireman,	36	1	....	Harwood No. 2,		
	29. 33	Hugh Gallagher,	Laborer,	55	1	....	Highland No. 2,	Luzerne,	While setting a pair of latches leading to rock chute near the breaker he was knocked down by an empty car and instantly killed.
Oct.	6. 34	Frank Urban,	Miner,	48	1	2	Spring Brook,	Carbon,	Instantly killed by a fall of top coal while barring after a shot.
	12. 35	John Barnick,	Laborer,	35	1	2	Beaver Brook,	Luzerne,	Instantly killed by a fall of coal on the stripping.
	14. 36	James Brisbin,	Miner,	55	....	....	Jeddo No. 4,	Luzerne,	Fatally injured by fall of coal off pillar of the adjoining breast where he retreated for safety after firing a blast in his own working place.
	19. 37	Joseph Meechick,	Driver,	20	....	....	Spring Brook,	Carbon,	Fatally injured by falling under a trip of cars. He was taken to the hospital where he died two hours later.
Nov.	10. 38	Christian Ulrich,	Laborer,	23	....	....	Highland No. 2,	Luzerne,	Fatally injured by a fall of parting slate in the gangway.
	26. 39	John Flatko,	Slate picker,	16	....	....	Derringer breaker,	Luzerne,	Fatally injured by accidentally sliding down a chute leading to the rolls, his legs having been ground up in the rolls before the machinery could be stopped. He died shortly afterwards.

Dec	2.	40	George Tenahuha,	Miner,	21	1	3 Mulberry No. 2 slope,	Luzerne,	Instantly killed by a fall of coal. The cause of accident was neglect of deceased to stand props as directed on the morning of the accident by the assistant mine foreman.
	6.	41	Nicholas Bugner,	Laborer,	26	1	Highland No. 5,	Luzerne,	Fatally injured; while cleaning boiler flues he plunged both legs into a bed of red hot dust and in trying to escape plunged both arms into it.
	30.	42	Samuel Kemp,	Miner,	27	1	Milnesville,	Luzerne,	Instantly killed by a premature blast on the stripping; returning too soon after the first blast, he was caught by the second.

TABLE No. 5.—List of Non-Fatal Accidents that occurred in and about the mines of the Fifth Anthracite District for the year ending December 31, 1896.

Date of accident.	Number of accident.	Name of Person.	Occupation.	Age.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 4.	1	Frank Cobelsky,	Laborer,	36	Jeddo No. 1,	Luzerne,	Shoulder blade fractured by having been struck by piece of coal flying from a blast on stripping.
5.	2	James Welch,	Footman,	27	Stockton No. 8,	Luzerne,	Shoulder blade fractured by having been caught by a car on the slope, through carelessness.
7.	3	John Reback,	Slate picker,	17	Derringer,	Luzerne,	Leg fractured by falling in the breaker.
8.	4	August Schmidt,	Laborer,	40	Lattimer No. 1,	Luzerne,	Arm fractured by being caught between mine cars at bottom of plane through carelessness.
11.	5	Luke Fisanish,	Laborer,	30	Hazle Brook,	Luzerne,	Leg fractured by a piece of falling slate from side of gangway.
13.	6	Eli Guscott	Miner,	50	Stockton No. 2,	Luzerne,	Leg fractured by piece of coal rolling against it while he was robbing pillars.
15.	7	Andrew Gersaunck,	Jig runner,	16	Highland No. 2,	Luzerne,	Arm fractured by having been caught by a jig eccentric.
17.	8	John Zonis,	Miner,	30	Harwood No. 2,	Luzerne,	Seriously burned by the explosion of a keg of powder.
31.	9	Anthony Popoloski,	Laborer,	24	Lattimer No. 3,	Luzerne,	Leg fractured by being struck by a lever.
Feb. 6.	10	Barney Boyle,	Miner,	37	Highland No. 5,	Luzerne,	Head cut and back bruised by a fall of coal.
11.	11	John Curdick,	Laborer,	40	Beaver Brook,	Luzerne,	Slightly burned by an explosion of gas while opening a breast in Lykens Valley vein.
13.	12	Michael Yenchic,	Laborer,	35	Hollywood,	Luzerne,	Struck on the head by a piece of rock.
13.	13	Metro Kudlick,	Miner,	38	Sandy Run,	Luzerne,	Seriously injured by a car running down the slope through neglect of top man.

	14.	14	Robert Fitzpatrick	Driver.	29	Stockton No. 4	Luzerne.	Fell under mine cars and collar bone fractured.
	22.	15	John Serbach.	Laborer.	24	Highland No. 5.	Luzerne.	These two men were unloading a car of rock and dirt from the tunnel, which had been frozen and while picking in this material their pick struck an electric "exploder" which exploded, seriously injuring both men.
	22	16	John Sesco	Laborer.	20	Highland No. 5.	Luzerne.	
	22	17	Frank Hudock.	Laborer.	18	Highland No. 5.	Luzerne.	Injured in the same manner as the above two men viz. by the explosion of an electric exploder.
	24.	18	Peter Leonardi	Laborer.	40	Stockton No. 2.	Luzerne.	Struck and severely cut by a piece of coal flying from a blast; through the carelessness of another man.
	26	19	Dennis Gallagher.	Miner.	40	Highland No. 2.	Luzerne.	Leg fractured by a piece of coal from premature blast.
Mar.	4.	20	Francis Dorian	Driver.	19	Lansford No. 6.	Carbon.	Leg fractured by having been struck by a timber truck.
	4.	21	Paul Winisko.	Driver.	22	Lansford No. 6.	Carbon.	Body severely injured by having been run over by a timber truck.
	7.	22	George Kalanish.	Miner.	23	Stockton No. 5.	Luzerne.	Collar bone fractured by a fall of clod.
	10.	23	John Perry.	Driver.	16	Hazleton No. 3.	Luzerne.	Collar bone fractured by a car jumping the track.
	30.	24	Edward McGeehan.	Miner.	32	Hazleton No. 3.	Luzerne.	Leg fractured by a piece of rock falling against it in the stripping.
	30.	25	Michael Moriarity	Foreman	43	Spring Mt. No. 4.	Luzerne.	Seriously injured by a slide of bank at stripping.
April	2.	26	Edward McDonald	Patcher.	19	Stockton No. 5.	Luzerne.	Head injured by a car while making a flying switch.
	9.	27	William Ryan	Miner.	29	East Crystal Ridge.	Luzerne.	Two ribs fractured by having been struck by a falling prop.
	16.	28	Hugh Sweeney.	Miner.	25	Beaver Brook.	Luzerne.	Fell down a manway and was badly cut and bruised about the head.
May	5.	29	William Kerbec.	Driver.	19	Treskow.	Carbon.	Leg fractured by having been caught between mine cars.
	5.	30	Joseph Mero	Miner.	3	Hazle Brook.	Luzerne.	Badly burned about head and face while reopening a blast.
	6.	31	Castel Sabo	Laborer.	3	Spring Mountain.	Luzerne.	Leg fractured by a piece of rock falling against it.
	7.	32	Patrick Rodgers	Miner.	27	Beaver Brook.	Luzerne.	Leg fractured by a fall of clod while making room for a length of manway.
	13.	33	Thomas Brock.	Laborer.	25	Spring Mountain.	Luzerne.	Arm badly cut and bruised by having been caught under a mine car.
	15.	34	Mike Kl[illegible]	Laborer.	28	Coleraine.	Carbon.	Head and neck cut by a fall of clod.
	15.	35	Joseph Rocik	Laborer.	30	Upper Lehigh.	Luzerne.	Seriously injured about the body by a fall of clod.
	23.	36	Elmer Hill	Driver.	19	Lattimer No. 3	Luzerne.	Leg fractured by having been struck by a piece of coal from a blast.

Table No. 5—Continued.

Date of accident.	Number of accident.	Name of Person.	Occupation.	Age.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
May 23,	37	Dominic Maio,	Laborer,	33	Lattimer No. 1,	Luzerne,	Severely injured by premature blast on the strippings. Pachem may lose his eyesight.
23,	38	Savaria Pachem,	Laborer,	26	Lattimer No. 1,		
26,	39	Raphael Gabwidi,	Miner,	21	Gowen,	Luzerne,	Both legs fractured by a premature blast.
June 6,	40	John Branitzka,	Laborer,	64	Upper Lehigh,	Luzerne,	Severely injured by having been squeezed between railroad cars.
9,	41	Dennis Boyle,	Miner,	30	Harwood,	Luzerne,	Injured by coal flying from a premature blast.
13,	42	Leonard Timbo,	Laborer,	33	Lattimer No. 4,	Luzerne,	Leg fractured by a piece of coal rolling against it.
17,	43	Peter Verishock,	Trackman,	45	Spring Brook,	Luzerne,	Seriously injured by premature blast.
26,	44	James Sharp,	Driver,	25	Highland No. 5,	Luzerne,	Leg fractured by having been caught between mine cars.
July 2,	45	Peter McDermott,	Miner,	45	East Crystal Ridge,	Luzerne,	Seriously injured by a fall of top coal.
13,	46	John Iedick,	Laborer,	50	Coleraine,	Carbon,	Foot badly injured by having been caught in the scraper line.
21,	47	James Gallagher,	Miner,	30	Spring Mountain No. 4,	Carbon,	Foot fractured by having been caught by a fall of clod.
21,	48	Christ Breisel,	Miner,	50	Hazleton No. 3,	Luzerne,	Severely injured by a fall of dividing slate.
31,	49	John Rimnock,	Driver,	..	Ebervale washery,	Luzerne,	Leg injured by falling while trying to jump on a mine car.
Aug. 3,	50	Ludwig Matchkovick,	Miner,	32	Drifton No. 2,	Luzerne,	Leg fractured by having been caught between rock and small mine car.
14,	51	William Hughes,	Mine foreman,	50	Spring Brook,	Carbon,	Injured by a fall of slate on No. 1 slope while examining slope after car ran down without the chain.
14,	52	Thos. Morgans,	Asst. foreman,	41	Spring Brook,	Carbon,	
14,	53	John Fabrick,	Driver,	21	Spring Brook,	Carbon,	
20,	54	Mike Orblesky,	Laborer,	30	Highland No. 5,	Luzerne,	Struck by a piece of coal on right leg causing a compound fracture.
22,	55	John Shigo,	Lavorer,	26	Eckley,	Carbon,	Leg fractured by a fall of coal.
24,	56	Patrick Malloney,	Driver,	..	Coleraine,	Luzerne,	Leg fractured by having been crushed between mine cars.
25,	57	Joseph Midosh,	Miner,	32	Tresckow No. 2,	Carbon,	Pelvis fractured by a fall of top coal.

Sept.	3.	58	Jas. Millinoski.	Laborer.	23	Lattimer.	Luzerne.	Leg fractured by falling from a trestle.
	8.	59	Stephen Martish.	Laborer.	36	Stockton.	Luzerne.	Injured by fall of coal; head cut and leg broken.
	8.	60	Henry Scheafer.	Pumpman.	18	East Crystal Ridge.	Luzerne.	Foot fractured by crossing the pump while it was in motion.
	9.	61	Frank Rose.	Slate picker.	13	Lattimer No. 3.	Luzerne.	Leg fractured by having been caught by a revolving shaft in breaker.
	18.	62	Joseph McGeady.	Car dumper.	20	Spring Mountain.	Luzerne.	Foot fractured; while dumping a car on the breaker his foot was crushed between the dump rail and the car wheel.
	21.	63	William Miller.	Miner.		Evans colliery.	Luzerne.	Injured by having been struck on the head by the handle of windlass.
	22.	64	Patrick Bowen.	Miner.	33	Jeddo No. 4.	Luzerne.	Injured about the body while barring after a blast.
	23.	65	Andrew Morieuk.	Miner.	24	Highland No. 5.	Luzerne.	Ribs fractured by a fall of top coal.
	23.	66	Patrick Cannaghan.	Laborer.	22	Highland No. 5.	Luzerne.	Leg fractured by a fall of dividing slate.
Oct.	1.	67	Joseph Jacob.	Miner.	34	Buck Mountain.	Luzerne.	Seriously injured by a premature blast in going back too soon after a shot.
	1.	68	Wm. Matakah.	Miner.	24	East Crystal Ridge.	Luzerne.	Badly cut about head and face by coal flying from a blast.
	14.	69	Patrick McGonigle.	Miner.	39	Drifton No. 1.	Luzerne.	Leg fractured by having been struck by a falling piece of rock that he was barring down.
	14.	70	Charles Righter.	Miner.	24	Hollywood	Luzerne.	Leg fractured by having been struck by a piece of rock while starting a battery.
	14.	71	George Tucci.	Driver.	17	Lattimer No. 1.	Luzerne.	Slightly injured by having been squeezed between a mine car and a mill.
	15.	72	Chas. Gabaner.	Timberman	55	Cranberry.	Luzerne.	Leg fractured by a fall of slate on the gangway.
	16.	73	Piasi Martin.	Miner.	46	Gowan No. 1.	Luzerne.	Arm fractured by having been thrown to a platform by a rush of coal from the breast.
	19.	74	Joseph Polka.	Miner.	32	Hazleton No. 3.	Luzerne.	Spine fractured by a fall of top coal.
	28.	75	Andrew Pawlick.	Miner.	36	Eckley No. 2.	Luzerne.	Seriously injured by a fall of coal; he was knocked down by the first fall when the second fall came upon him causing him the injury.
Nov.	9.	76	John Sura.	Laborer.	29	Upper Lehigh No. 6.	Luzerne.	Dislocation of hip and compound fracture of right leg by a fall of coal.
	14.	17	John Pullock.	Laborer.	24	Lattimer No. 3 stripping.	Luzerne.	Arm and collar bone fractured by having been squeezed between cars and rock.
	17.	78	Veto Palerino.	Steam driller.	37	Lattimer No. 3 stripping.	Luzerne.	Seriously injured by an explosion of powder.
	19.	79	Roman Smith.	Laborer.	28	Lattimer No. 3 stripping.	Luzerne.	Leg fractured by having been squeezed by railroad cars near the breaker

Table No. 5.—Continued.

Date of accident.	Number of accident	Name of Person.	Occupation.	Age.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Nov. 18.	80	Condy Ward,	Laborer,	20	Hazle Brook,	Luzerne,	Injured by a fall of coal.
23.	81	Joseph Holden,	Laborer,	24	Beaver Brook	Luzerne,	Seriously injured by the falling out of a slip of coal, striking him to the ground while he was engaged in sinking a slope.
24.	82	Gottlieb Hill,	Bottom man,	18	Eckley,	Luzerne,	Slightly injured by having his fingers cut. He was taken to the engine room to have his finger dressed and while there he fainted, fell against connecting rod of engine and received additional injury about the head.
28.	83	Charles Finis,	Miner,	32	Hazleton No. 3,	Luzerne,	Body badly contused by having been caught in the chute by a rush of coal from the breast caused by carelessness of his partner, who started the rush of coal down the breast.
28.	84	John Yates	Miner,	55	Harwood No. 9,	Luzerne,	Several ribs fractured by a fall of top rock at face of breast while at work drilling a hole.
Dec. 1.	85	John Bolonso,	Miner,	35	Hazle Brook,	Luzerne,	Slightly injured by having been struck by a piece of coal flying from a blast.
4.	86	Wm. Schrumm,	Miner,	40	East Crystal Ridge,	Luzerne,	Slightly injured by fall of coal on the stripping while barring down coal.
9.	87	Mike Uranick	Laborer,	34	Lansford No. 6,	Carbon,	Seriously injured by premature blast in gangway.
10.	88	George Tompko,	Hitcher,	31	Harwood,	Luzerne,	Arm lacerated and body injured by having been run over by mine car.
17.	89	Mike Turrock,	Miner,	25	Cranberry No. 4,	Luzerne,	Slightly injured by an explosion of powder by a spark from his lamp dropping into the keg.

21	98	Ignatz Gyz	.....	Laborer	...	40	Theresa No. 2	...	.....	Carbon.	..	.....	Leg fractured by a piece of frozen clay falling against it while he was at work on the stripping.
30.	91	Mike Hitchock	.....	Laborer	.....	28	Glendale.	.....	.....	Carbon.	.....	.....	Leg fractured by a fall of rock while at work in gangway.

SIXTH ANTHRACITE DISTRICT.

(SCHUYLKILL COUNTY.)

Shenandoah, Pa., March 18, 1897.

Hon. James W. Latta, Secretary of Internal Affairs:

Sir: As required by section nine, article two, of the act of June, 1891, I have the honor of herewith submitting to you my annual report of the Sixth Anthracite Coal District for the year 1896.

The report shows an increase of eight fatal and fourteen non-fatal accidents during the year 1896, as compared with the year 1895. It also shows an increase in the number of employes of 1,109 in the year 1896, and a decrease in the production of coal of 607,385 tons.

Tables 4 and 5 give the names of those killed and injured and a description of how the accidents occurred, and those who have a knowledge of mining operations will have no difficulty in determining where to place the responsibility, so that it would be useless for me to further protract this report with a redundancy of words, all having the same meaning.

Yours very respectively,

WILLIAM STEIN,
Inspector of Mines.

Examination of Applicants for Mine Foreman's Certificates.

The annual examination for mine foreman's certificates was held in Pottsville, May, 1896.

The examiners were William Stein, Mine Inspector; William H. Lewis, Superintendent; Frank Wilcum and Michael Brennan, miners.

The following are the names of the successful candidates, who were granted Mine Foreman's Certificates: Thomas Taylor, Girardville; John L. Reese, Lost Creek; John P. Furlong, Lost Creek; James Hodgart, St. Nicholas. Also the names of those who obtained Assistant Mine Foreman's Certificates, namely: Peter Matthews (Jackson's Patch), Mahanoy City; John M. Williams, Audenreid, and William H. Pierce, Frackville.

At Kohinoor Colliery, No. 2 shaft has been sunk from Holm's vein to the seven foot, a distance of 362 feet. The size of shaft is 10x12

feet, and it is divided into two compartments, one 10x7½ feet, and the other 10x4½ feet. The largest division will be used for hoisting men and water, and the entire area of the shaft which is 120 feet forms the upcast opening to fan. A new fan, 18 feet in diameter, vanes 6x4½ feet, was erected on the top of this shaft, which will ventilate the entire colliery. The fan running at sixty revolutions per minute produces 90,000 cubic feet of air per minute. About ten or twelve years ago a shaft was sunk through broken measures to the "Mammoth vein" and a fan was erected on top of this shaft, which gave fairly good results, but the robbing of pillars in connection with the neighboring Kehler's Run colliery gave evidences of fracturing the surroundings of this shaft and so it was determined by the Philadelphia and Reading Coal and Iron Company's officials to sink the No. 2 shaft, which has established a safer and more permanent system of ventilation. These improvements have been completed at considerable expense; still a large quantity of coal will be recovered in abandoning the old fan shaft. Three collieries have been dismantled during the year, namely, the "Girard," "Bear Run" and "Elmwood." Coal is still being mined at the two last-named collieries, and the coal from Bear Run is prepared at St. Nicholas breaker; the coal mined from Elmwood mine workings is hauled through a tunnel cut through the rock measures from the south to the north dip, and hoisted up Tunnel Ridge slope, and prepared at the Tunnel Ridge breaker. Girard colliery, both inside and outside, is absolutely abandoned.

Total number of persons employed inside and outside and nature of their employment.—Inside.

Inside foremen,	172	
Miners,	4,674	
Miners' laborers,	2,662	
All other company men,	2,974	
Drivers and runners,	877	
Door-boys and helpers,	265	
Total inside,		11,624

Outside.

Outside foremen,	65
Blacksmiths and carpenters,	306
Engineers and firemen,	778

Slate pickers,	4,948	
All other company men,	3,152	
Superintendents and clerks,	106	
Total outside,		9,555
Total inside and outside,		20,979

The following is the number of accidents fatal and non-fatal and the nationalities of those killed and injured.

	Fatal.	Non-fatal
Americans,	2	4
English,	4	4
Irish,	14	6
Welsh,	6	7
Scotch,	1	
Germans,	5	2
Polish,	23	46
Hungarian,	10	20
Italian,	2	
Total,	67	99

Trifling accidents,	19
Number maimed,	14
Wives left widows,	31
Orphans,	74

Table showing comparative statement of fatal casualties for years 1895 and 1896.

	Years	
	1895.	1896.
Explosions of fire damp,	10	7
Explosions of blasting material,	4	1
Premature explosions,	4	7
Falls of coal and roof,	24	25
Crushed by mine cars,	1	9
Falling down shafts and slopes,	4	2
By coal flying from shots,		2
By machinery on surface,	4	5
Boiler explosions,		1
Suffocated by gas, or rather, powder smoke,		1
Miscellaneous,	5	7
Total,	59	67

Table showing comparative statement of non-fatal casualties for the years 1895 and 1896.

	Years.	
	1895.	1896.
Explosions of fire damp,	15	24
Explosions of blasting material,	1	10
Premature explosions,	8	6
Falls of coal and roof,	26	23
Crushed by mine cars,	22	11
Falling down shafts and slopes,	.....	.....
By coal flying from shots,	2	1
By machinery on surface,	4	4
Boiler explosions,	.....	3
Miscellaneous,	7	17
Total,	85	99

Table showing the quantity of coal produced and shipped during the years 1895 and 1896.

	Years.	
	1895.	1896.
Quantity of coal produced in tons of 2,240 pounds,	7,164,895	6,521,510
Quantity of coal shipped in tons of 2,240 pounds,	6,636,166	6,016,021

Table showing number of fatal accidents and quantity of coal produced per life lost.

	Number of fatal accidents.	Tons of coal produced per fatal accident.
Philadelphia and Reading Coal and Iron Company,	48	73,982
Lehigh Valley Coal Company,	8	87,397
Lehigh and Wilkes-Barre Coal Company,	5	96,173
Lentz, Lilly & Company,	2	122,721
Silver Brook Coal Company,	1	255,575
William Penn Coal Company,	1	252,000
Mill Creek Coal Company,	2	161,195
Coxe Brothers,	.....	.....
Individual firms,	.....	.....

Years.	Killed.	Injured.	Total.	Total number of employes.	Number of employes to each casualty.	Number of tons of coal mined to each fatal casualty.	Number of tons of coal mined to each non-fatal casualty.	Ratio of tons of coal to each casualty.	Number of tons of coal mined to each employe.	Total number of tons of coal mined.
1892,	54	122	176	20,414	116	118,491	52,313	36,263	312	6,382,346
1893,	60	139	199	21,974	110	110,597	47,737	38,345	302	6,674,807
1894,	73	94	167	20,109	120	86,847	67,445	37,963	305	6,339,831
1895,	59	85	144	19,816	139	124,828	84,292	49,758	359	7,164,895
1896,	67	99	166	20,979	126	97,873	66,237	39,503	313	6,521,510
Total,	313	539	852	103,290	611	538,636	318,024	201,832	1,591	33,083,389
Averages,	62	107	170	20,658	122	107,727	63,605	40,366	318	6,616,677

The following table, taking the death rate per thousand as a basis of comparison between the different companies and individual operators shows the ratio for the year.

	Number of employes.	Number of deaths.	Death rate per thousand.
Philadelphia and Reading Coal and Iron Company,	12,162	48	3.9
Lehigh Valley Coal Company,	2,154	8	3.7
Lehigh and Wilkes Barre Coal Company,	1,660	5	3
Lentz, Lilly & Company,	1,181	4	3.7
Silver Brook Coal Company,	494	1	2
Mill Creek Coal Company,	848	2	2.3
William Penn Coal Company,	596	1	1.6
Coxe Brothers,	802	.....	.....
Individual firms,	1,082	.....	.....

Table showing comparisons between the years 1895 and 1896.

	Years.	
	1895.	1896.
Number of persons employed,	19,810	20,979
Tons of coal produced per life lost,	124,828	97,873
Number of tons of coal produced per each personal injury	49,758	66,237
Ratio of employes per life lost,	238½	309
Average number of tons of coal produced per employe,	359	312
Ratio of employes per each personal injury,	139	126

Comparative statement of fatal and non-fatal casualties and their causes for five years.

Fatal Casualties.	1892.	1893.	1894.	1895.	1896.	Total for five years.
Explosions of fire damp,	7	1	12	10	7	.....
Explosions of blasting material,	.....	3	2	4	1	.....
Premature explosions,	4	1	3	4	7	.....
Falls of coal and roof,	21	27	23	21	25	.....
Crushed by mine cars,	9	14	7	4	9	.....
Falling down shafts and slopes,	.....	2	2	4	2	.....
By coal flying from shots,	.....	1	1	.....	2	.....
By machinery on surface,	2	4	4	4	5	.....
Boiler explosions,	.....	2	4	.....	1	.....
Suffocated by gas or powder smoke,	.....	.....	2	.....	1	.....
Miscellaneous,	11	5	13	5	7	.....
Totals for the respective years,	54	60	73	59	67	313
Non-Fatal Casualties.						
Explosions of fire damp,	31	28	22	15	24	.....
Explosions of blasting material,	.....	8	1	1	10	.....
Premature explosions,	4	10	8	8	6	.....
Falls of coal and roof,	32	36	23	26	23	.....
Crushed by mine cars,	17	28	20	22	11	.....
Falling down shafts and slopes,	.....	.....	2	.....	.....	.....
By coal flying from shots,	3	1	2	2	1	.....
By machinery on surface,	2	8	2	4	4	.....
Boiler explosions,	.....	.....	1	.....	3	.....
Miscellaneous,	23	20	13	7	17	.....
Total for the respective years,	112	139	94	88	99	529

Names of collieries and the number of accidents that occurred at each, and the names of foremen.

Names of Collieries.	Fatal accidents inside.	Fatal accidents outside.	Non-fatal accidents inside.	Non-fatal accidents outside.	Inside Foreman.	Outside Foremen.
Boston Run,	3	...	2	....	Thomas Coan,	John Durkin.
St. Nicholas,	1	2	...	1	Edward Coyle,	Wm. Sauerbrey.
Ellangowan,	4	1	4	....	George Richardson,	John Heiler.
Elmwood,	....	...	2	1	Michael Bradley,	W. Tiley.
Girard Mammoth,	....	...	1	....	Charles Harlor,	Wm. Buckley.
Gilberton,	2	1	4	4	Geo. Thomas,	Wm. Burdon.
Hammond,	2	1	....	....	David Fulton,	John Haley.
Indian Ridge,	1	1	1	....	Wm. Mitchell,	Albert Smith.
Knickerbocker,	1	...	5	....	John Brown,	Jos. Knapp.
Kohinoor,	1	1	5	....	Thos. James,	D. Lauderman.
Mahanoy City,	2	1	1	....	Geo. Kilgore,	A. Ferguson.
North Mahanoy,	3	...	...	....	G. S. Keath,	S. Eltringham.
Suffolk,	1	...	...	....	D. Adamson,	Wm. Sauerbrey.
Schuylkill,	1	...	7	....	Jas. McCabe,	Thos. Lawrence.
Shenandoah City,	2	...	3	1	Fred. Carl,	M. Baugh.
Turkey Run,	1	...	5	....	Ben. Church,	Fred. Reese.
Tunnel Ridge,	....	...	1	....	Thos. Eltringham,	John Reid.

Comparative Statement—Continued.

Names of Collieries.	Fatal accidents inside.	Fatal accidents outside.	Non-fatal accidents inside.	Non-fatal accidents outside.	Inside Foreman.	Outside Foreman.
Bear Ridge,	3	....	....	....	John Hanson,	Arthur Jones.
					Wm. Evans,	
West Shenandoah,	3	....	1	....	David Morgan,	A. D. Gable.
Maple Hill,	7	....	9	1	Jas. P. McDonald,	Chas. E. Frank.
Draper,	1	1	1	....	J. Mathews,	W. P. Bowen.
Packer No. 2,	6	....	3	....	John Jones,	John Brennan.
Packer No. 3,	....	....	2	....	P. Fenton,	Wm. Kaercher.
Packer No. 4,	1	....	1	....	Jas. Heaton,	F. Scanlon.
Packer No. 5,	1	....	....	....	Morgan Price,	A. D. Brown.
Honey Brook No. 4,	3	....	....	2	Thos. McKeone,	H. Mader.
					Jacob R. Evans,	
Honey Brook No. 5,	1	1	1	2	Peter Sheridan,	E. Slager.
					Evan T. Jones,	
William Penn,	....	1	2	2	P. Sommers,	J. Dunlap.
					R. Palmer,	
Park No. 2,	1	1	3	3	Elias Cooper,	Ed. Sykes.
Park No. 3,	....	....	....	....	W. Hillhouse,	
Springdale,	....	....	5	1	J. Goldsworthy,	None.
Silver Brook,	1	....	....	....	Evan Jenkins,	E. W. Miller.
Buck Mountain,	2	....	....	....	Oliver Reese,	M. Meyers.
Vulcan,	....	....	1	....	Wm. Powell,	Val. Meyers.
Kehley's Run,	....	....	3	....	Geo. K. Young,	John Keiper.
Primrose,	....	....	....	....	John Schwint,	Chas. Lynn.
Oneida No. 1 slope,	....	....	3	1	Wm. Palmer,	
Oneida No. 2 slope,	....	....	....	....	T. McNamara,	Chas. Miller.
Oneida No. 3 slope,	....	....	....	....	Christ Miller,	
Lawrence,	....	....	....	....	Tobias Seiwell,	J. Ruebrecht.
Cambridge,	....	....	1	....	Ben Evans,	David James.
Furnace,	....	....	....	....	John McGinnis,	M. Gerber.
					Thomas James,	
Total,	55	12	80	19		

The condition of the collieries in the Sixth district is very satisfactory and is in every particular yearly improving. We have put up and are still putting up tubular boilers to take the place of the common cylinder boiler. The number of second outlets are not confined to the requirements of the mine ventilation law, for it is not an uncommon thing to have five and six outlets to most of the collieries. Additional fans have been installed at some of the collieries, and the sanitary condition of the mines throughout the district has been much improved. The method of mining the coal veins has met with the approval of all the mining experts who have visited this district. In constructing the collieries to their limit, only thirty to forty per cent. of the coal vein is mined and sent to the surface, the remaining sixty to seventy per cent. is left in the shape of pillar supports, until final robbing is begun. Robbing the pillars means that all the coal is taken from them which can be got, providing the surface conditions will warrant it, but surface im-

provements, creeks, railroads, water dams and swamps immediately overlying the outcrop of the coal beds, prevent large quantities of coal from being mined.

The width of the pillars is almost universal and they are from ten to twelve yards wide on all angles of dip. Breasts vary in width according to the character of the vein itself, and the overlying and underlying starta, and these characistics are so varied in course of constructing a gangway, that in sections of the same vein the breasts can be worked six, seven and eight yards wide, while in other sections they have to be driven narrow and double timbered with an eight foot collar. The breasts are opened in groups of ten, with a large reservation pillar forming the position of two breasts and two pillars between each group. This method we believe not only increases the general safety of the colliery inasmuch as each group of breasts can be ventilated separately which gives a purer and healthier atmosphere for the workmen to breathe, because the impurities from combustion and other causes are discharged directly into the main return air-way from each group, and should an explosion of gas occur, the effects from it would be confined to the particular group of breasts in which it occurred. This method of mining also decreases the cost of maintaining the transportation and air avenues, and should a fire occur in a group of breasts, it could be fought directly, and if it became necesssary to flood, it would not be necessary to submerge the entire colliery. We also claim that from an economic standpoint, mining coal by the breast and pillar system, as above described, that the operator can take more coal out of a given area, from the fact that in the event of final robbing, the pillars having been formed sufficiently large and strong enough so that should a squeeze or thrust take place it will only affect that territory which is being robbed and the squeeze would only be local.

There are dangers to be encountered in mining operations over which we have had no control, and we believe every effort is being put forth to prevent loss of life from these dangers, so far as it is possible for human skill to accomplish.

For instance, large quantities of gas are penned up under high pressure in the coal strata, which in course of mining the coal have been suddenly liberated, causing loss of life. To guard against accidents from sudden outbursts of gas, a system of boring has been adopted in some of our gaseous mines to tap, if possible, the gas in advance of the coal face; yet notwithstanding all the care and forethought exercised to discover these dangerous accumulations of gas, sudden outbursts do occur although not frequently. Another source of danger met with in some districts of the anthracite coal field is what are called in mining language, "pot holes," of quicksand and

water; these cavities are approximate to the top of the coal vein, and the intervening rock measures between the top of vein and bottom of "pot hole" being weaker than at other points, a sudden burst of sand and water occurs, resulting sometimes in loss of life. A series of bore holes have been put down where these "pot holes" are likely to be located with a view of ascertaining the depth of sand and gravel overlying the coal bed, and although a great deal of money has been expended in boring these test holes, we sometimes have a cave-in where we least expect it.

Stenographic report of the coroner's inquest held by Deputy Coroner P. O. Bleiler, at Girardville, Pa., on July 29, 1896, on the bodies of William Quinn, fire boss, and Michael Brazil, miner, who were killed at the Bear Ridge colliery on July 27, 1896.

The jurors were Alfred Kitts, foreman; John Green, Michael Gillespie, Thomas Green, James Savelle, Thomas F. Horan, all residents of Girardville, Pa.

The examination of witnesses was conducted by William Stein, Esq., Mine Inspector of the Sixth Anthracite district.

John Kline, sworn:

Q. Mr. Kline, state just what you know about this accident?

A. I know nothing at all about it, only what I heard others say. I had some men at work in the slope to take out sills to have them replaced with others. I was told there was something wrong down in Quinn's place. When I came in Quinn was down. He was alive when they fetched him to the foot of the shaft in the wagon, so they told me. We tried to get up in the place, but it started to fall. We tried it again, but the gas backed down on us. After some time two men went up and they brought Brazil's body down. That is all I know.

Q. How long have you been foreman of that colliery?

A. Since it started—between eight and nine years. From the building of the breaker.

Q. Will you tell the jury what is the practice for examining the workings there for gas?

A. Our places are traveled over every morning, Mr. Stein.

Q. At about what time?

A. Between 3 and 4. Not later than 4.

Q. Have you got a station in the colliery where men wait to receive instructions as to whether the breasts are safe from gas, or not?

A. At the bottom of the slope.

Q. Are the examinations made by the fire bosses each day put in a record book kept for that purpose?

A. No, sir; they are not.

Q. They are not?

A. No, sir.

Q. Why not?

A. Because we didn't keep books at the colliery for it.

Q. Then the fire bosses make no record of their examinations?

A. Yes, sir; they do, to me.

Q. But they make no record in a book?

A. No, sir; only travel the extent of the colliery they are assigned to. That is put down daily, as they travel.

Q. You have a book for that purpose?

A. Yes, sir; if everything is right in the morning they report to me; if it is not that section of the colliery does not work until it is.

Q. You understand the law is that the fire bosses must make a record of his visits in the morning?

A. That is the first time that I have to hear of that.

Q. You have not got your book along with you, have you?

A. No, sir.

Q. But you have this record?

A. I have the book at the colliery. They make a daily report to the boss. That is all I have.

Q. Did the superintendent never instruct you that it was the law that the fire boss should make report of the examinations in the colliery book for the purpose?

A. No, sir.

Mr. Stein: Mr. Klein, I want to tell you that is the law. This was not the cause of the men's death, but I want to call your attention to the law. (Reads from Article 12, section 5, on page 40 of the Mine laws.) "Every report shall be recorded without delay in a book which shall be kept at the colliery for the purpose and shall be signed by the person making the examination."

Q. Mr. Klein, do you know how these shots were fired in breasts Nos. 42 and 43?

A. Only what I hear from the people. The understanding I got was this. In the morning, when I came down, I asked Quinn, the fire boss, how it was and he answered, "Better this morning than it has been." I said, "Is it necessary for me to go in this morning?" and he said, "Not at all; you had better get through with the work in the slope."

Q. How is the fire boss governed in firing shots?

A. He fires all the shots himself; he fires them with a fuse.

Q. How do these breasts go up?

A. We never worked one through.

Q. What is the lift?

A. One hundred yards. These men were killed in the headings

up in breasts Nos. 42 and 43. They thought that when there was no gas there, they would go farther than the headings. One of the men killed was the fire boss, and the other man was driving a heading towards 42, and another man was driving out; one to 40, and one to 42 from 41.

Q. How far was this heading in?

A. I understand that one man, Fuss, had a blind heading about six feet, but hadn't the timber up.

Q. If the fire boss had made preparations to fire those two shots with a battery and had come down in the gangway, wouldn't that have been the better way?

A. Yes, sir.

Q. Suppose he had fired those two shots with the battery, or had come down after lighting the fuse, would that man have been safe?

A. Yes, sir.

Q. He wouldn't have been killed?

A. No, sir; I am told that he cut the fuse as he had a mind to, and he ignited the one shot and the shot went off. It was within a minute and a half or two minutes after the shot went off that the explosion took place.

Q. The first shot?

A. Yes, sir; and they judge then that from about twenty to twenty-five minutes after that the second shot went.

Q. If this fire boss thought there was any danger he would have come to the gangway?

A. Most assuredly.

Q. Of course he had a battery with him?

A. It was there; the wires ran right up to them.

Q. How long was it between the first shot and the explosion?

A. I can't say, because I was not there; but they tell me from one and a half to two minutes, and some say three minutes. The miners informed me they had two sticks of dynamite from Friday and they pushed these two sticks in first and then brought the supplies for the day and put six more in, so that they had four pounds in each hole.

Q. Did the fire boss violate the rules of the inside foreman by firing the shots with a fuse?

A. No, sir.

Q. Or the instructions of the inside boss by not coming down in the gangway?

A. I told him to do that. I guess he thought it was all right where he was.

Q. What we want to find out is whether they violated the rules by not coming down to the gangway, or by not firing the shot with the battery?

A. The instructions were not peremptorily given to fire with the battery.

Q. Were the instructions absolute that no shot should be fired unless with the battery?

A. No, sir.

Q. Well, then, in the future, how will that shot be fired?

A. According to the instructions we got from Mr. Veith.

Q. To fire with the battery?

A. Yes, sir.

Juror: Q. You have that instruction now?

A. Yes, sir; that is the instruction he gave me when he came.

Mr. Stein: Q. Do you think that by firing with the battery the explosion would have been avoided?

A. No, sir; it would not.

Q. It was not necessary to come in the gangway?

A. No, sir.

Q. And the wire was there if he wished to use it?

A. Yes, sir.

Q. Where was the miner in 40 breast?

A. In the blind heading.

Q. He was not injured at all?

A. No, sir; he was in the down cast man-way, and Brazil was in the up-cast.

Q. Have you anything to say as to how that gas came in contact with flame?

A. Not unless the dynamite they had there a couple of days flamed.

Q. Nobody knows after this shot fired how the breast fell?

A. It fell heavily.

Q. And the explosion happened after?

A. Yes, sir.

Q. How thick is the vein?

A. I can't tell.

Q. About thirty feet?

A. Yes, sir; that much anyhow. We never can see the top.

Q. Was it possible for the gas to be above the reach of the safety lamp?

A. That would stand to reason.

Q. Then it was possible that the fall would bring the gas down on the flame of dynamite?

A. Yes, sir.

Joseph Foss, sworn:

Q. What is your occupation?

A. I am a miner at the Bear Ridge colliery.

Q. How long have you worked there?

A. I believe this August coming will be a year.

Q. Where were you working on Monday, July 27th, 1896?

A. I was working at the face of my breast, then about twelve feet, working in a heading, breast 41 on the north dip.

Q. What were you doing?

A. I was driving a heading. I started it on the Friday afternoon before the accident. Our breast was finished and they gave my butty, Mike Brazil, and myself a heading each.

Q. Did you know of these two shots going to be fired in breasts 42 and 43?

A. I didn't know of two, but I knew that there was one, at least I thought so, because the other breast man was talking about drilling a hole and my butty told me he got the rap from the fire boss to go to the heading and he told me that he was going to the heading and asked if I got a rap to go down, too; so I waited for a rap, but I didn't get one. Henry Krapp and George Bramer were working in 43. They were working on the 27th of July.

Q. Did you hear a shot fired?

A. Yes, sir.

Q. Did you hear the explosion of gas immediately after?

A. I heard the shot and then I thought to myself, "Well, it is all right;" and then I heard it fall. I thought it fell pretty heavily and I was uneasy for fear it might not run through, as they were liable to run through. I didn't know whether to start to run or not, and I took my pick and started at the face of the heading; and just as I did, about two minutes after, the shock of the breeze came.

Q. Did you feel it strike you?

A. Yes, sir; strong and hot; but I didn't see any flame. I put my light out when I felt it. I waited until the breeze settled and then I went down the steps and when I wanted to breathe I thought scalding water was going down my neck. I threw my lamp down and let myself fall and when I got to the man-way I thought there was ice water thrown over me, it was so cold. I crawled to the gangway and there I kicked a coffee bottle and threw it aside. I was feeling for the gangway door to see if there were any lights inside, but the doors were blown open; so I went back towards the bottom of the slope and I saw the shadow of lights; I called and they came running in past the wagons through the ditch and asked if I was burned. I asked for the rest of the people. Three of them

jumped up on the wagon and just as they were going up, the other shot went off. Then I knew there were two holes drilled. I didn't know it before.

Q. You say the men in 42 and 43 came down to the gangway?

A. Yes, sir; and notified the fire boss, and he went up to the second heading and rapped my butty down and told him to tell me if I would get a rap to come down, but I didn't get it.

Q. Is it your custom, Mr. Foss, to stay up in the headings while shots are being fired?

A. No, sir; very seldom.

Q. Have you stayed up at all?

A. Yes, sir; two or three times before that.

Q. During the time you have been driving those breasts up?

A. Yes, sir.

Q. Don't you think it is right to come down to the gangway?

A. Yes, sir; it is right. Of course, if we were authorized to stay up we used to do it and if we were ordered down we would come.

Q. What did the fire boss say in the morning?

A. He said everything was clear and there was no gas in our places, and I never found any there, and the other breasts were clear, and everything was all right. My butty was driving the heading into that breast. I was driving towards 40, and he was going towards 42. My butty was in the up cast.

Q. Who was going to rap to you?

A. I guess my butty, or the fire boss.

Q. When you get a rap to come down you generally know there is danger around somewhere?

A. Yes, sir; and I go down.

George Bramer, sworn:

Q. What is your occupation?

A. Miner.

Q. In which colliery?

A. Bear Ridge colliery.

Q. Your breast?

A. 42.

Q. What was the condition of that breast?

A. The breast was all right. When we went up in the morning we drilled two holes, one nine and the other six feet.

Q. You were supposed to go up there that morning?

A. Yes, sir.

Q. Who pronounced it safe?

A. The fire boss.

Q. Did he tell you?

A. My partner asked him in the morning how it was. He said,

"Billy, how is it?" "All right," he said, "I think we will go on the inside of that place to-day." We said, "Don't you think we had better fire some holes and make some coal?" and he said, "May be it is better," and he said we should go and drill a couple of holes, and we did so.

Q. Have you any idea of the width of that breast—the two I mean?

A. About sixty-seven feet.

Q. And you heard the conversation between your partner and Quinn, the fire boss?

A. He went to the fire boss in the morning and got his lamp, and said, "How is it?" or something. We don't go in without asking something. It was thought the day before we would work on the inside. I wouldn't know in what respect the fire boss was negligent.

Q. How deep did you drill those holes?

A. One nine feet and the other about six feet.

Q. You came down after charging the holes, to the gangway and informed Quinn that you wanted to fire the shots?

A. Yes, sir.

Q. And he went up for that purpose?

A. Yes, sir.

Q. And you stayed in the gangway with your partner?

A. Yes, sir.

Q. You heard the first shot?

A. We did.

Q. Could you tell how soon after, the explosion occurred?

A. I should say about two or three minutes. The hole went off and we heard it falling and were listening to it and talked a few words when the explosion came.

Q. Could you throw any light as to the cause of the gas being ignited?

A. No; I could not. I wouldn't know anything else than probably some of the dynamite didn't do off. I couldn't tell which dynamite we used, and I don't know whether the two sticks that were in there three days were in the bottom of the hole. My partner tamped the hole and I reached him over the pieces from the manway.

Q. You heard coal fall?

A. Yes, sir; and it fell very hard.

Q. How long after the explosion did the second shot go off?

A. I should judge about eight minutes, or so.

Q. Did you assist in taking out these men?

A. I tried to go up in the first place and couldn't get up, and then I got pretty sick and didn't go up again.

Q. What did you generally tamp on the dynamite?

A. Dirt bags.

Q. It was all right when you went up there—there was no gas?

A. No, sir; no gas.

Q. If they had come to the gangway would they have been saved?

A. Yes, sir.

Q. And the battery is there all the time?

A. Yes, sir; as far as the top of the man-way.

Q. Could you reach any gas before firing?

A. No, sir.

Q. Did you have good air?

A. Yes, sir; we had good air.

Q. The explosion went before the second shot?

A. Yes, sir.

Q. What was the idea of drilling that long hole?

A. To take all the middle out.

Q. Was Quinn dead when you saw him?

A. Yes, sir.

Q. And you couldn't tell in which hole you put that damaged dynamite?

A. I don't know. To my belief I don't see how the dynamite could get damaged. We have been used to leave it there for a week.

Q. How long have you worked in this colliery?

A. I think it is going on to three years.

Q. How long has Krapp worked with you?

A. Three years, or more.

Q. If these men had come down to the gangway would they have been all right, so far as this gas was concerned?

A. Yes, sir.

Edward Davis, sworn:

Q. What is your occupation?

A. Miner.

Q. Where?

A. Taking pillars out of the south dip at Bear Ridge.

Q. Do you know about the explosion of gas there?

A. I don't know much about it.

Q. Did you assist in taking the bodies out?

A. Yes, sir.

Q. Tell us what you know?

A. I traveled out of my gangway, after hearing the noise, into the north dip, and found Foss on the gangway in the dark. I asked him if gas had been fired and he said he didn't know. It was ter-

ribly hot. I went further in and went up on top of the car to go up the man-way, and a moment after another shot went off. I believe that shot was fired by the gas.

Q. You don't think Quinn ignited both holes together?

A. No, sir; as the man was suffering in the man-way before that – I heard him groaning.

Q. You didn't help get the men down?

A. No, sir; I had to go before that on account of the gas.

Q. What is your opinion of this accident?

A. They tell me there were two bad sticks of dynamite in the heading and they put eight sticks in the holes. I would think the first shot set fire to the two bad sticks and it burned with a light, and the first fall brought the gas down on the light. I don't think there should be any blame attached to anybody.

James Mahany, sworn:

Q. What is your occupation?

A. Fire boss.

Q. At Bear Ridge colliery?

A. Yes, sir.

Q. How long have you been fire boss there?

A. Since before that lift was started.

Q. Two or three years?

A. More than that—five years at least.

Q. Tell what you know about this accident?

A. I don't know anything, only I went up to fetch the men's bodies down. I was at the bottom. I helped to get one man down, and got weak and couldn't help with the other. I helped Quinn.

Q. Where did you get him?

A. At the second heading.

Q. You cannot tell anything at all as to how the accident happened?

A. No, sir; I was not in there.

Anthony Bobinis sworn:

Q. Do you know anything about this accident?

A. I helped to get the men out of the place. I took Billy Quinn out first.

Testimony closed.

The coroner's jury rendered the following verdict:

"We find that the deceased came to their deaths through an accident that could not have been foreseen."

Table 1.—Showing Location, &c., of Collieries in the Sixth Anthracite District.

Name of Colliery.	Name of Operator.	Location—Schuylkill County.	Name of Superintendent.	Postoffice Address.
Boston Run,	Philadelphia and Reading Coal and Iron Company,	St. Nicholas,	John Veith,	Pottsville.
Bear Run,	Philadelphia and Reading Coal and Iron Company,	St. Nicholas,	John Veith,	Pottsville.
W. Bear Ridge,	Philadelphia and Reading Coal and Iron Company,	Mahanoy Plane,	John Veith,	Pottsville.
Ellangowan,	Philadelphia and Reading Coal and Iron Company,	Maple Dale,	John Veith,	Pottsville.
Elmwood,	Philadelphia and Reading Coal and Iron Company,	Mahanoy City,	John Veith,	Pottsville.
Girard,	Philadelphia and Reading Coal and Iron Company,	Girardville,	John Veith,	Pottsville.
Girard Mammoth,	Philadelphia and Reading Coal and Iron Company,	Raven Run,	John Veith,	Pottsville.
Gilberton,	Philadelphia and Reading Coal and Iron Company,	Gilberton,	John Veith,	Pottsville.
Hammond,	Philadelphia and Reading Coal and Iron Company,	Girardville,	John Veith,	Pottsville.
Indian Ridge,	Philadelphia and Reading Coal and Iron Company,	Shenandoah,	John Veith,	Pottsville.
Knickerbocker,	Philadelphia and Reading Coal and Iron Company,	Yatesville,	John Veith,	Pottsville.
Kohinoor,	Philadelphia and Reading Coal and Iron Company,	Shenandoah,	John Veith,	Pottsville.
Mahanoy City,	Philadelphia and Reading Coal and Iron Company,	Mahanoy City,	John Veith,	Pottsville.
Maple Hill,	Philadelphia and Reading Coal and Iron Company,	St. Nicholas,	John Veith,	Pottsville.
North Mahanoy,	Philadelphia and Reading Coal and Iron Company,	Mahanoy City,	John Veith,	Pottsville.
Draper,	Philadelphia and Reading Coal and Iron Company,	Gilberton,	John Veith,	Pottsville.
St. Nicholas,	Philadelphia and Reading Coal and Iron Company,	St. Nicholas,	John Veith,	Pottsville.
Suffolk,	Philadelphia and Reading Coal and Iron Company,	St. Nicholas,	John Veith,	Pottsville.
Schuylkill,	Philadelphia and Reading Coal and Iron Company,	Mahanoy City,	John Veith,	Pottsville.
Shenandoah City,	Philadelphia and Reading Coal and Iron Company,	Shenandoah,	John Veith,	Pottsville.
Turkey Run,	Philadelphia and Reading Coal and Iron Company,	Shenandoah,	John Veith,	Pottsville.
Tunnel Ridge,	Philadelphia and Reading Coal and Iron Company,	Mahanoy City,	John Veith,	Pottsville.
Plank Ridge,	Philadelphia and Reading Coal and Iron Company,	Shenandoah,	John Veith,	Pottsville.
Mahanoy Jig House,	Philadelphia and Reading Coal and Iron Company,	Mahanoy City,	John Veith,	Pottsville.
St. Nicholas Jigs,	Philadelphia and Reading Coal and Iron Company,	St. Nicholas,	John Veith,	Pottsville.
Yatesville Jigs,	Philadelphia and Reading Coal and Iron Company,	Yatesville,	John Veith,	Pottsville.
Packer No. 2,	Lehigh Valley Coal Company,	Lost Creek,	Col. D. P. Brown,	Lost Creek.
Packer No. 3,	Lehigh Valley Coal Company,	Brownsville,	Col. D. P. Brown,	Lost Creek.
Packer No. 4,	Lehigh Valley Coal Company,	Lost Creek,	Col. D. P. Brown,	Lost Creek.
Packer No. 5,	Lehigh Valley Coal Company,	Rapahannock,	Col. D. P. Brown,	Lost Creek.
Primrose,	Lehigh Valley Coal Company,	Mahanoy City,	Col. D. P. Brown,	Lost Creek.
Park No. 2,	Lentz, Lilly & Company,	Park Place,	Edward Reese,	Park Place.
Springdale,	Lentz, Lilly & Company,	Park Place,	Edward Reese,	Park Place.
Silver Brook No. 2,	Silver Brook Coal Company,	Silver Brook,	James Long,	Silver Brook.
Honey Brook No. 4,	Lehigh and Wilkes-Barre Coal Company,	Audenreid,	E. H. Lawall,	Wilkes-Barre.
Honey Brook No. 5,	Lehigh and Wilkes-Barre Coal Company,	Audenreid,	E. H. Lawall,	Wilkes-Barre.
Monarch Washery,	Lehigh and Wilkes-Barre Coal Company,	Audenreid,	E. H. Lawall,	Wilkes-Barre.
Carson Washery,	Lehigh and Wilkes-Barre Coal Company,	Audenreid,	E. H. Lawall,	Wilkes-Barre.
Oneida,	Coxe Brothers,	Oneida,	L. C. Smith,	Drifton.
William Penn,	Pennsylvania Coal Company,	Shaft P. O.,	William H. Lewis,	Shaft P. O.
Buck Mountain,	Mill Creek Coal Company,	Buck Mountain,	T. D. Jones,	Hazleton.

Vulcan	Mill Creek Coal Company	Buck Mountain	T. D. Jones	Hazleton.
Kehley's Run	Thomas Coal Company	Shenandoah	Thomas Laird	Shenandoah.
Lawrence	Gilbert Coal Company	Mahaney Plane	William Miller	Frackville
Cambridge	Cambridge Coal Company	Shenandoah	John McGinnis	Frackville
Furnace	Seaman Bros. and Gerber	Gilberton	Mahlon Gerber	Tamaqua.
Seaman Washery	Seaman Brothers	Gilberton	Jesse Major	Shenandoah.
Stoddart Washery	Stoddart Coal Company	Gilberton	J. L. Hollenbeck	Pottsville

TABLE 2.—Gives the total number of tons of coal mined in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder used, &c., in the Sixth Anthracite District for the year ending December 31, 1896.

Names of Collieries.	Location.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Pounds of dynamite used.
Boston Run,	St. Nicholas,	119,150	113,477	175	430	3	2	1,378	22	49	18,022
Bear Run,	St. Nicholas,	9,969	9,495	36	.....	1	.....	731	.....	.....	2,083
Bear Ridge,	Mahanoy Plane,	237,298	225,998	171	767	3	.....	1,575	46	89	12,279
Ellangowan,	Maple Dale,	338,969	322,828	176	930	5	4	10,737	12	109	5,891
Elmwood,	Mahanoy City,	82,905	78,955	165	383	.....	3	2,180	17	35	5,731
Girard Mammoth,	Raven Run,	70,018	66,684	170	350	.....	1	1,910	24	43	1,625
Gilberton,	Gilberton,	119,592	113,897	141	756	3	8	3,100	13	54	26,391
Hammond,	Girardville,	150,385	143,224	176	456	3	.....	2,296	38	59	10,019
Indian Ridge,	Shenandoah,	168,222	160,212	177	558	2	1	5,344	8	54	4,284
Knickerbocker,	Yatesville,	139,254	132,623	144	608	1	5	4,539	28	51	14,874
Kohinoor,	Shenandoah,	121,170	115,400	178	493	2	5	3,824	31	50	6,252
Mahanoy City,	Mahanoy City,	137,181	130,649	170	520	3	1	3,858	27	58	5,919
Maple Hill,	St. Nicholas,	426,672	406,355	180	1,252	7	10	14,798	26	92	14,603
Draper,	Gilberton,	146,788	139,798	171	482	2	4	2,831	10	47	19,903
North Mahanoy,	Mahanoy City,	174,872	166,545	179	577	3	.....	4,655	9	55	2,767
St. Nicholas,	St. Nicholas,	145,554	138,623	181	474	3	1	4,146	26	78	9,701
Suffolk,	St. Nicholas,	253,722	241,640	180	688	.....	.....	7,147	22	77	5,758
Schuylkill,	Mahanoy City,	105,360	100,343	182	368	1	7	2,742	20	36	1,579
Shenandoah City,	Shenandoah,	198,635	189,176	179	652	2	4	5,855	34	64	5,078
Turkey Run,	Shenandoah,	154,865	147,491	180	445	1	5	3,620	14	51	4,433
West Shenandoah,	Shenandoah,	116,901	111,335	177	410	3	1	3,075	16	44	2,758
Tunnel Ridge,	Mahanoy City,	132,597	126,283	177	433	.....	1	2,744	16	54	2,526
St. Nicholas Jigs,	St. Nicholas,	1,066	1,066	172	45	.....	.....	.....	5	.....	.....
Mahanoy Jigs,	Mahanoy City,	.....	.....	221	85	.....	.....	.....	17	.....	.....
Packer No. 2,	Lost Creek,	133,365	114,459	163	316	6	3	954	22	31	17,771
Packer No. 3,	Brownsville,	166,160	151,212	166	449	.....	2	2,455	27	37	3,484
Packer No. 4,	Lost Creek,	148,096	117,478	187	386	1	1	3,538	24	33	4,466
Packer No. 5,	Rappahannock,	144,293	129,005	146	562	1	.....	3,831	32	43	6,700
Primrose,	Mahanoy City,	107,124	100,359	158	441	.....	.....	4,791	5	50	2,535

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TABLE No. 3.—Showing the number of each class of employes at each colliery in the Sixth Anthracite District, during the year 1896.

Names of Collieries.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							
	Inside foremen.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All other company men.	Superintendents, bookkeepers and clerks.	Total outside.	Grand total inside and outside.
Boston Run	5	58	65	74	14	.....	216	2	5	17	108	80	2	214	430
Ellangowan	11	186	221	104	40	12	574	2	8	19	224	99	4	359	930
Elmwood	4	84	55	62	21	4	230	1	5	16	78	51	2	153	383
Girard Mammoth	3	71	15	76	21	3	189	1	5	20	83	51	1	161	350
Gilberton	8	156	140	123	16	10	453	2	10	35	152	102	2	303	756
Hammond	6	80	28	90	20	7	231	2	7	25	120	69	2	225	456
Indian Ridge	7	95	80	53	25	6	276	3	9	25	160	92	3	292	568
Knickerbocker	7	132	48	46	6	5	244	2	6	23	224	107	2	364	608
Kohinoor	7	157	56	41	31	8	300	2	9	24	94	62	2	193	493
Mahanoy City	4	113	65	90	33	4	309	2	4	22	116	65	2	211	520
St. Nicholas	5	56	87	74	27	6	255	.....	7	12	112	86	2	219	474
Suffolk	5	157	116	104	18	11	411	2	7	22	131	112	3	277	688
Schuylkill	4	88	36	57	12	2	199	1	4	13	113	37	1	169	368
Shenandoah City	5	151	99	58	37	15	365	2	8	23	157	95	2	287	652
Turkey Run	3	131	42	64	17	13	270	2	5	10	97	59	2	175	445
Tunnel Ridge	4	87	20	87	25	17	240	1	4	16	112	58	2	193	433
North Mahanoy	4	107	93	78	24	11	317	1	6	21	139	91	2	260	577
Pear Ridge	9	133	80	134	33	6	395	2	9	34	183	142	3	372	767
West Shenandoah	5	109	47	58	17	3	239	2	6	16	82	64	1	171	410
Maple Hill	8	384	161	143	49	26	771	2	8	25	319	124	3	481	1,252
Draper	7	80	47	118	25	4	281	1	6	30	102	60	2	201	482
St. Nicholas Jigs	.....	.....	.....	.....	.....	.....	.....	1	3	4	15	22	1	45	45
Mahanoy Jigs	.....	.....	.....	.....	.....	.....	.....	1	3	3	43	33	2	85	85
Packer No. 2	5	60	28	73	10	3	179	1	14	13	45	62	2	137	316
Packer No. 3	4	137	80	65	14	4	304	1	8	15	63	56	3	145	449
Packer No. 4	4	98	63	48	21	3	237	1	15	12	59	60	2	149	386
Packer No. 5	8	100	118	72	21	4	323	1	12	12	109	103	2	239	562

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TABLE No. 4.—List of Fatal Accidents that occurred in and about the mines of the Sixth Anthracite District for the year ending December 31, 1896.

Date of accident.	Name of Person Injured.	Age.	Married or single.	Number of orphans.	Name of Colliery.	Location.	Date of investigation.	Nature and Cause of Accident in Brief.
Jan. 6.	George Dubas,	18	S.	...	Draper,	Gilberton	Jan. 7	Was caught in the breaker elevators and instantly killed. He lifted a heavy door and got into the elevators. Some think he committed suicide. Hungarian laborer.
8.	George Grafton,	18	S.	....	Draper,	Gilberton,	7	He had finished his night shift and hauled out the timber men on the truck. At the inside end of turnout he stopped his mule to open the latches to put the truck on loaded track when the men began throwing their tools off, which frightened the mule, when Grafton grasped the mule by the head and was thrown down and run over by the truck and instantly killed. American, driver.
8.	Mike Smuligan,	28	S.	....	Bear Run,	St. Nicholas,	8	Fatally injured on the 8th by a fall of coal and slate, and died in Miners' Hospital on the 9th. Pole, laborer.
8.	Edward Jenkins,	14	....	....	Indian Ridge,	Shenandoah,	9	Caught in the steamboat scraper and died on his way home. He was employed knocking the coal out of links of scraper chain with a stick, but used his foot instead, and got fast in the links.
10.	Frank Kernistkie,	31	M.	1	Turkey Run,	Shenandoah,	10	While pulling coal into the schute a fall of top coal occurred, killing him instantly. Pole, miner.
14.	Anthony Stobinkus,	33	M.	1	Maple Hill,	St. Nicholas,	16	Fatally injured by a fall of coal, and died on the 16th. Accident occurred in breast 35, West Buck Mountain Vein, North dip, South tunnel. Pole, miner.

	16.	Frank O'Donnell,	56	M	4	Honey Brook No. 4,	Audenreid,		17	He ignited two shots, one with a squib and the other with a fuse, and thinking they were long in exploding, returned through a heading in front of the blasts, when they exploded, killing him instantly. Irish, miner.
	17.	John Schistell,	37	S.		Shenandoah City,	Shenandoah,		17	Was killed instantly by a fall of "clod." At the inquest his brother testified it was their own neglect, as the Boss and Fire Boss visited them the day previous and ordered the "clod" to be taken down. German, miner.
	29.	Michael Shewack,	36	M.	5	Mahanoy City,	Mahanoy City,		30	Was shoveling dirt into gunboat at foot of surface plane, when the rope on the gunboat ran to foot of plane, killing him. Outside laborer.
Feb.	7.	William Schofield,	36	W.	1	North Mahanoy,	Mahanoy City,	Feb.	7	Killed by a fall of top coal. He was engaged barring loose coal from under the top bench when the fall took place. Miner.
	13.	Simon Wazalas,	32	M.		Ellangowan,	Maple Dale,		13	Fatally injured by a fall of coal. Died February 16th. Inside laborer.
	20.	Andrew Bednosh,	30	S.		Ellangowan,	Maple Dale,		13	Fatally injured by having been caught between car and breaker post. Box car loader. Died February 29th.
	21.	Nathan Becker,	55	M.	11	Boston Run,	St. Nicholas,		22	Fatally injured by falling off a truck in pump slope while being lowered to second lift. Died April 27th. Stableman.
	21.	Oliver Becker,	24	M	2	Boston Run,	St. Nicholas,		22	Killed by falling down pump slope. Circumstantial evidence pointed to the fact that the night engineer checked his engine suddenly, jerking the men off the truck. The road bed was in excellent repair, and the truck in good condition.
	26.	Michael Pozaro,	43	M.	2	Ellangowan,	Maple Dale,		26	Fatally injured by a fall of coal. Died in the Miners' Hospital, March 18th. Miner.
March	9.	Mich. Grigus,	25	S.		Maple Hill,	St. Nicholas,		13	Killed by a piece of coal flying from a blast. The result of shortening the squib. Miner.
	24.	David McCutcheon,	30	M.	1	Indian Ridge,	Shenandoah,		25	Fatally injured by a fall of coal while dressing off loose coal after a blast. Miner.
	27.	William Stretcher,	15			Mahanoy City,	Mahanoy City,		28	Fatally injured by being caught between platform and car. He jumped on the front car of the trip beside the driver and would not get off. Sprugger. Died on April 2d.
	31.	Michael Wargo,	30	M.		Maple Hill,	St. Nicholas,	May	4	Fatally injured by coal flying from a blast, and died after being taken home. The result of shortening a squib. Miner.

Table No. 4.—Continued.

Date of accident.	Name of Person Injured.	Age.	Married or single.	Number of orphans.	Name of Colliery.	Location.	Date of investigation.	Nature and Cause of Accident in Brief.
April 2.	Pierce Shortall,	25	S.	....	Gilberton,	Gilberton,	May 3	Killed while starting schute battery by the coal rushing on him in mainway side of schute. Starter.
14.	Thomas James,	13	....	....	Honey Brook No. 5,	Audenreid,	15	Killed by having been caught in line shaft of breaker. Slate picker.
15.	William Hosler,	29	M.	2	North Mahanoy,	Mahanoy City,	16	Killed by a fall of top bench seven in hes thick. Miner.
22.	Ralph Goodoff,	30	S.	....	Schuylkill,	Mahanoy,	23	Fatally injured by powder. Died on May 22d in the Miners' Hospital. Miner.
May 11.	John Eisenhard,	40	M	4	Shenandoah City,	Shenandoah,	12	Fatally burned by an explosion of gas. Died the following day. Miner.
12.	John J. Monaghan,	45	M.	4	Hammond,	Girardville,	13	Killed by an explosion of gas. Miner.
12.	Edward Roach,	38	S.	....	Hammond,	Girardville,	13	Fatally injured by an explosion of gas at the same time as Monaghan. Died in the Miners Hospital on the 17th. Miner.
June 4.	John Burlavage,	36	M.	1	Maple Hill,	St. Nicholas	5	Fatally injured by returning too soon to a blast that he no doubt thought had missed fire. Died on the 8th. Miner.
18.	Mike Markie,	27	S.	....	Silver Brook,	Silver Brook,	19	Suffocated by powder smoke in strippings. Loader.
23.	Joe Macusky,	20	S.	....	Maple Hill,	St. Nicholas,	24	Fatally injured by a kick from a mule he was driving; died on the 24th. Driver.
26.	William Hitchens,	44	M.	2	Honey Brook No. 4,	Audenreid,	27	Killed by a fall of coal. Miner.
July 3.	Lew Mosko,	29	M.	....	Maple Hill,	St. Nicholas,	9	Sprained his back lifting a "buggy" in schute. Died on the 8th. Miner.
9.	Anthony Rensinger,	28	S.	....	St. Nicholas,	St. Nicholas	10	Fatally injured between railroad cars and breaker. Died a few hours after having been injured. Car loader.
23.	Thomas Williams,	45	M.	9	W. Bear Ridge,	Mahanoy Plane,	23	Fatally injured by a fall of coal. Died same day in Miners' Hospital. Miner.
27.	William Quinn,	37	M.	4	W. Bear Ridge,	Mahanoy Plane,	28	Killed by an explosion of gas. Fire boss.
27.	Mike Brazil,	26	S.	....	W. Bear Ridge,	Mahanoy Plane,	28	Killed by an explision of gas. Miner.

Aug	5.	Patrick Kileur	58	S.		Packer No. 2	Lost Creek	Killed by a fall of coal. Miner.
	6.	Charles Rapinek	40	M.	4	Maple Hill	St. Nicholas	Fatally injured by a fall of top slate. Died a few hours subsequent to his injury. Miner.
	7.	Percy Snell	28	M.	1	Park No. 2	Park Place	Killed by a boiler explosion. Engineer.
	7.	Aud. Euzhiskey	36	M.	1	Ellangowan	Maple Dale	Fatally injured by a fall of coal. Died from his injuries on the 12th. Laborer.
	7.	William C. Richards	24	S.		West Shenandoah	Shenandoah	Killed on slope track by being run over by cars. Assistant repairman.
	26.	George Dralock	58	M.	2	Ellangowan	Maple Dale	Killed by a fall of coal and "clod." Miner.
Sept	1.	Anthony Karrutis	24	S.		Mahanoy City	Maple City	Killed; while lifting a car on log it fell, catching his head between it and top rail of car. Laborer.
	8.	Frank Lewis	39	M.		West Shenandoah	Shenandoah	Fatally burned by an explosion of gas, died on the 11th. Fire boss.
	8.	Stanley Penites	43	M.		West Shenandoah	Shenandoah	Fatally burned by an explosion of gas, died on the 20th in the Miners' Hospital. Miner.
	12.	Joseph Mattsueo	35	M.	3	Honey Brook No. 5	Audenreid	Killed by a boulder of rock rolling down on him in No. 11 stripping. Miner.
	14.	Steve Ludchock	35	M.	3	Boston Run	St. Nicholas	Killed by a fall of coal while working at what is termed final robbing. Laborer.
	18.	Anthony Phillipen	17	S.		Packer No. 2	Lost Creek	Fatally injured by cars running over him. Died the following day. Driver.
	26.	Michael O'Donnell	49	M.		Packer No. 4	Lost Creek	Fatally injured by a fall of coal. Miner.
	30.	Martin Katulis	30	S.		William Penn	Shaft P. O.	Killed by a fall or side slip of clay at surface stripping. Laborer.
Oct	5.	Paul Ritz	30	S.		St. Nicholas Jig House	St. Nicholas	Killed by being crushed between railroad cars on turnout. Helper to car loader.
	13.	John Hander	30	M.	2	Buck Mountain	Black Mountain	Killed by a fall of slate.
	14.	Joseph Moluskie	34	M.		Gilberton	Gilberton	Fatally injured by a piece of coal striking him on the head in dump schute. Died on the 15th. Slate picker.
	20.	Mart Boachinus	26	M.		St. Nicholas	St. Nicholas	Killed by a fall of coal. Miner.
Nov	2.	John Hollarn	35	M.	4	Packer No. 2	Lost Creek	Killed by a blast. Contract miner.
	2.	Joseph Sam	22	S.		Packer No. 2	Lost Creek	Killed by a blast. Laborer.
	2.	Thomas Welsl	26	S.		Packer No. 2	Lost Creek	Fatally injured by coal which was displaced from a blast which he ignited. Died in the Miners' Hospital. Miner.
	7.	William Miller	15			Kohinoor	Shenandoah	Killed by being caught in slate elevator. Slate picker.
	10.	John Wasson	50	S.		Knickerbocker	Yatesville	Killed by a fall of top slate. Laborer.
	18.	Daniel Cullen	15			Kohinoor	Shenandoah	Killed by being jammed between gangway timber and car. Door boy.
	28.	Albert Savitskie	30	S.		Buck Mountain	Black Mountain	Killed by a fall of "clod." Miner.
	28.	Frank Steukfskie	32	S.		Gilberton	Gilberton	Killed. This was the result of forcing a cartridge of powder [illegible] with iron drill. Miner.

Table No. 4.—Continued.

Date of accident.	Name of Person Injured.	Age.	Married or single.	Number of orphans.	Name of Colliery.	Location.	Date of investigation.	Nature and Cause of Accident in Brief.
Dec. 3,	Joseph Rerkweus, ...	28	S.	....	Park No. 1, ...	Park Place, ...	May 4	Killed by a fall of top coal. Miner.
18,	Andrew Pollock, ...	30	S.	....	North Mahanoy, ...	Mahanoy City	19	Killed by a fall of coal. Laborer.
21,	Anthony Bodniskie, ...	30	S.	....	Honey Brook No. 4,.....	Audenreid, ...	22	Killed by a fall of coal. Miner.
22,	James Murphy, ...	24	S.	....	Packer No. 5, ...	Rappahannock, ...	23	Killed by a fall of coal. Miner.
							1897.	
29	Terrence O'Boyle, ...	15	S.	....	Hammond, ...	Girardville, ...	Jan. 2	Fatally injured by having been caught in scraper line. Died on the 31st in the Miners' Hospital.

TABLE No. 5.—List of Non-Fatal Accidents that occurred in and about the Mines of the Sixth Anthracite District for the Year ending December 31, 1896.

Date of accident.	Name of Person Injured.	Age.	Married.	Number of children	Name of Colliery.	Location.	Nature and Cause of Accident in Brief.
Jan. 16,	Stiney Cushma,	22	S.	...	Knickerbocker,	Yatesville,	Face and hands burned by an explosion of gas. Miner.
18,	John Yeedon,	23	S.	....	Knickerbocker,	Yatesville,	Injured about body and hips by a fall of coal. Miner.
18,	John Fellin,	39	M.	2	Oneida No. 1 slope,	Oneida,	Leg fractured by a fall of coal. Miner, Austrian.
18,	Anthony E. Needjinski,	30	M.	1	Draper,	Gilberton,	Burned severely by powder; while making a cartridge a spark from his lamp fell into the cartridge. Miner.
20,	Charles Riley,	47	M.	4	Draper,	Gilberton,	Leg fractured by a fall of coal. Miner.
27,	Anthony Matshelonas,	34	M.	1	Springdale,	Park Place,	Arm fractured by a fall of coal. Miner.
31,	Joseph Adlas,	32	S.	....	Maple Hill,	St. Nicholas,	Head and body injured by a premature blast. Miner.
Feb 3,	Mart. Cummings,	30	S.	...	Indian Ridge,	Shenandoah,	Foot crushed by a fall of "clod." Miner.
5,	William Krenopky,	22	S.	....	Maple Hill,	St. Nicholas,	Leg fractured by a gangway collar falling on him. Laborer.
5,	Thomas Quinn,	34	M.	4	Maple Hill,	St. Nicholas,	Leg fractured by a gangway collar falling on him. Miner.
6,	Michael Hobin,	34	S.	...	Elmwood,	Mananoy City,	Arm fractured. He slipped under ash dumper. Ashman.
11,	James Rist,	37	M.	2	Schuylkill,	Mahanoy City,	Slightly injured by a fall of coal.
11,	Thomas O'Brien,	28	M.	....	Gilberton,	Gilberton,	Bumped between cars while uncoupling them while they were in motion.
12,	Joe Neverla,	28	M.	1	Oneida,	Oneida,	Leg fractured by having been caught in driving belt of traveling grate. Fireman.
13,	Ernest Heed,	50	M.	...	Kohinoor,	Shenandoah,	Skull fractured by a piece of gas pipe falling on him. Miner.
20,	Mike Schockler,	42	M.	....	Shenandoah City,	Shenandoah,	Leg fractured by a fall of coal. Miner.
20,	Philip Shore,	48	M.	5	Gilberton,	Gilberton,	Leg fractured by a fall of slate. Laborer.

Table No. 5.—Continued.

Date of accident.	Name of Person Injured.	Age.	Married.	Number of children.	Name of Colliery.	Location.	Nature and Cause of Accident in Brief.
Feb. 25.	Jos. Vacante,	47	M.	3	Honey Brook No. 5,	Audenreid	Arm fractured by a piece of rock from a blast at stripping. Laborer.
28.	Simon Cutson,	40	M.	3	Turkey Run,	Shenandoah,	Leg fractured by a fall of coal. Miner.
Mar. 23.	Andy Giefskie,	24	M.	....	Knickerbocker,	Yatesville,	Slightly burned by an explosion of gas. Miner.
23.	Joe Begravits,	22	S.	....	Knickerbocker,	Yatesville	Slightly burned at the same time with Giefskie. Laborer.
26.	William J. Thomas,	50	M.	5	William Penn,	Shaft P. O.	Slightly burned by an explosion of gas. Miner.
27.	Frank Gobrick,	32	M.	...	Kohinoor,	Shenandoah,	Face and hands burned by powder. A spark fell from his lamp into the cartridge he was making. Miner.
April 14.	James Major,	44	M.	7	Shenandoah City,	Shenandoah	Skull fractured by having been kicked by a mule. Runner.
22.	Ralph Goodoff,	25	M.	2	Schuylkill,	Mahanoy City,	Goodoff was making a cartridge, and a spark from his lamp fell into the cartridge, burning himself and the other two who were working close to him.
22.	John Klinit,	40	M.	5	Schuylkill,	Mahanoy City,	
22.	Joe Grouse,	35	S.	....	Schuylkill,	Mahanoy City	
29.	Adam Lutz,	22	S.	....	Maple Hill,	St. Nicholas	Arm fractured by having been bumped between cars while coupling them. Car tender.
May 4.	Michael Kerby,	18	S.	....	Tunnel Ridge,	Mahanoy City.	Small bone of arm broken. Was thrown off a mule. Driver.
6.	Jos. Love,	25	S.	....	Girard Mammoth,	Raven Run.	Leg fractured. He failed to obey the warning given him that a shot was to be fired, and a piece of flying coal struck him. Miner.
7.	Carl Lupinsky,	24	S.	....	Elmwood,	Mahanoy City.	Nose broken and face lacerated by coal flying from a shot. He did not get far enough out the gangway.
8.	George Kinsey,	45	M.	5	Vulcan,	Mahanoy City.	Gangway leg fell on him, breaking his jaw bone. Laborer.

	9.	Dennis Brennan,	1	-	6	Schuylkill,	Mahanoy City,	Burned by an explosion of gas. Fire boss.
	11.	Charles Gogskey,	38	S.	....	Schuylkill City,	Shenandoah,	Severely burned about face, hands and back by an explosion of gas. Miner.
	11.	Peter Shiniskie,	45	M.	6	Schuylkill,	Mahanoy City	Burned by an explosion of gas. Fire boss.
	15.	Joe Urban,	38	S.	....	Schuylkill City,	Shenandoah	Severely burned about face, hands and back by an explosion of gas. Miner.
	12.	Pat. Welsh,	29	M.	....	Maple Hill,	St. Nicholas	While lifting a turnout collar he broke the small bone of his arm. Miner.
	13.	Edward Mates,	45	M.	6	Springdale,	Park Place	Cavage and Carroll had driven a heading through from 52 to 51 breast, East Buck Mountain gangway, then left to allow the gas to escape. Edward Mates the Fire Boss was sent the following morning to prevent any accident occurring, but allowed naked lamps to be taken up to the heading, and the gas ignited, burning the three men.
	13.	Thomas Cavage,	33	M.	1	Springdale,	Park Place	
	13.	Michael Carroll,	31	S.	....	Springdale,	Park Place.	
June	8.	Mike Salmon,	21	S.	....	Gilberton,	Gilberton,	Foot badly mashed; while running to make a coupling his foot caught in the frog and he was run over. Car loader.
	19.	Charles Kisel,	27	S.	...	Packer No. 3,	Brownsville,	Arm fractured by a fall of rock. Miner.
	22.	Mike Kasmarick,	30	S.	....	William Penn,	Shaft P. O.,	Severely bruised about the body. He fell a distance of 25 feet from breaker platform. Slate picker.
	24.	Joseph Cussen,	28	S.	....	Gilberton,	Gilberton	Thumb jammed between car and timber, and part of it was cut off. Laborer.
	24.	John Fellen,	30	S.	....	Gilberton,	Gilberton.	Face and hands burned by powder that he was tamping into a hole. He in some manner ignited the powder. Miner.
	25.	Simeon Onskitus,	30	M.	2	Oneida No. 1 slope,	Oneida,	Slipped from a scaffold and fell to floor of tunnel, having his thigh bone broken. Miner.
July	1.	Harry Roberts,	16	S.	...	William Penn,	Shaft P. O.,	Compound fracture of left arm. Had charge of scraper line, and was accidentally caught in same.
	3.	William Seduskey,	17	S.	....	Turkey Run,	Shenandoah,	Leg fractured by a piece of coal falling on it. Driver.
	7.	John Catson,	28	M.	2	Green Mountain,	Audenreid,	Leg fractured by a fall of coal.
	9.	Anthony Yonik,	25	M.	....	Maple Hill,	St. Nicholas.	Leg fractured. While a collar was being lifted on to the leg, it fell on him.
	27.	Peter Politz,	30	S.	....	Honey Brook No. 5,	Audenreid,	Leg fractured. Coal rolled on him at No. 8 stripping. Laborer.
	27.	Peter Krassowski,	28	S.	....	William Penn,	Shaft P. O.,	Arm fractured. While crossing bottom of slope on his way home from work, he was struck by a piece of coal. Laborer.
	30.	Louis Axin,	30	S.	....	Springdale,	Park Place.	Burned about face and hands by an explosion of gas. Starter.
Aug	7.	Edward Davis,	25	S.	....	Park No. 2,	Park Place,	Burned and scalded by a boiler explosion.
	7.	John Reese,	22	S.	....	Park No. 2,	Park Place,	
	7.	Mich. Condron,	14	S.	....	Park No. 2,	Park Place,	

Table No. 5—Continued.

Date of accident.	Name of Person Injured.	Age.	Married.	Number of children.	Name of Colliery.	Location.	Nature and Cause of Accident in Brief.
Aug. 7,	Anthony Augnot,	25	M.	....	Kehley's Run,	Shenandoah,	Leg fractured. Coal rolled on it. Laborer.
11,	Jos Bulling,	50	S.	....	Kohinoor,	Shenandoah,	Leg fractured. A piece of coal rolled on his leg while loading a car on platform. Miner.
12,	Jos. Karrupskie,	45	M.	2	Turkey Run,	Shenandoah,	Leg fractured. Bumped between cars. Loader.
12,	William Miller,	28	S.	....	Cambridge,	Shenandoah,	Two ribs fractured by a fall of coal. Miner.
19,	August Stiney,	36	S.	....	Elmwood,	Mahanoy City,	Face and head severely cut. In going back too soon to a shot he had ignited, and which he thought had missed fire. Miner.
20,	John Sobinski,	33	M.	6	Park No. 2,	Park Place,	Leg fractured by a fall of coal. Miner.
20,	Anth. Vrenowitch,	24	S.	....	Park No. 3,	Park Place,	Leg, back and head injured by a fall of coal. Miner.
28,	William Jones,	17	....	....	Springdale,	Park Place,	Arm fractured. He attempted to jump off the car, but his hand was jammed between coal and car, which caused him to stumble under the car. Driver.
28,	Mich. Kislavage,	30	S	....	Kehley's Run,	Shenandoah,	Leg severely bruised by coal rolling on him while starting a battery. Laborer.
Sept. 1,	Anthony Goodoff,	26	M.	1	Schuylkill,	Mahanoy City,	Burned on face and hands by an explosion of gas. Miner.
8,	Peter Seboovish,	40	S.	....	W. Shenandoah,	Shenandoah,	Burned on face and hands by an explosion which the Fire Boss, Frank Lewis, ignited with a naked lamp. Lewis died two days afterwards. Miner.
11,	Frank Sinveca,	16	S.	....	Kohinoor,	Shenandoah,	Burned on face and hands by an explosion of gas. He went to a face after firing and used a naked lamp instead of the safety. Miner.
17,	George Engle,	22	S.	....	Mahanoy City,	Mahanoy City,	Leg cut off below the knee. Cars ran over him while spragging.

	28.	John Youngalavage,	31	M.	1	Kehinoe,	Shenandoah,	Three ribs broken and back badly bruised by a fall of coal. Miner.
	30.	Matt. Pawilkas,	36	M.	....	Maple Hill,	St. Nicholas,	Injured about the legs. He ignited a shot and went back to it thinking it had missed fire, when it exploded. Miner.
Oct.	6.	Edward Witchey,	26	S.	....	Boston Run,	St Nicholas,	Face and hands burned by an explosion of gas. The Fire Boss, by reason of sickness did not come to examine his district of the colliery, and Witchey entered his place of work without first knowing whether or not it was free from gas. Miner.
	14.	Enoch Wooduski,	28	S.	....	Ellangowan,	St. Njcholas,	Leg fractured by having been caught between two pieces of coal. Miner.
	15.	Frank Meyer,	21	S.	....	Honey Brook No. 4,	Audenreid,	Ribs fractured. He was unhitching on top of outside plane. His hold slipped and he fell under the dumper and was dragged by the car. Laborer.
	21.	Lawrence Cushock,	40	M.	....	Ellangowan,	St. Nicholas,	Slightly burned by an explosion of gas. He left his place of work and went into a breast which was not working, and in which was standing gas. The Fire Boss was held responsible for this accident. Miner.
	24.	John Socklusky,	32	M.	....	Maple Hill,		These men lit a squib in an empty blasting barrel in order to clean it out. The squib shot into a keg of powder which was standing near, which exploded, burning them very severely. Miners.
	24.	Frank Kilinsky,	22	S.	....	Maple Hill,	St Nicholas,	
	28.	Daniel Cull,	39	M.	5	Park No. 2,	Park Place,	Leg fractured by a fall of coal. Miner.
	29.	Albert Witcafskie,	57	M.	6	Turkey Run,	Shenandoah,	Slightly burned by an explosion of gas. The Fireboss was to blame for this accident, and he was discharged. Miners.
	29.	Simon Demfskie,	24	S.	....	Turkey Run,	Shenandoah,	
	30.	And. Goober,	18	S.	....	Boston Run,	St. Nicholas,	Coming out of gangway with a loaded car, he attempted to get on the car, and was squeezed severely about the hips between car and timbers.
Nov.	2.	John McGrath,	30	S.	....	Packer No. 2,	Lost Creek,	Injured about the body by a blast while attempting to rescue Thomas Welsh, whose foot had become fastened in loose coal while retreating from a blast he had ignited. Miner.
	2.	Mich. Mack,	55	M.	9	Packer No. 2,	Lost Creek,	Injured slightly about the body by the same blast by which McGrath was injured. Miner.
	2.	William Thomas,	15	....	....	Gilberton,	Gilberton,	Leg fractured. He slipped and fell on track and the bumper of a car caught him. Oiler.

Table No. 5.—Continued.

Date of accident.	Name of Person Injured.	Age.	Married.	Number of children.	Name of Colliery.	Location.	Nature and Cause of Accident in Brief.
Nov. 5.	Jas. Flanigan,	37	M.	....	Ellangowan,	Maple Dale,	Face and hands burned by an explosion of gas. They both came down from face of breast to gangway for lunch and returned to work with their naked lamps.
5.	Jas. McCulloch,	40	M.	....	Ellangowan,	Maple Dale,	
9.	John McFadden,	50	M.	1	Honey Brook No. 4,	Audenreid,	Leg fractured by having been kicked by a mule in stable. Stable Boss.
10.	John Bajura,	20	S.	....	Oneida No. 1,	Oneida,	Small bone of hand broken by having been caught between the "Barney" and timbers at foot of plane. Laborer.
13.	John Gober,	35	M.	....	St. Nicholas,	St. Nicholas,	Slightly burned by an explosion of gas. Left his place of work to visit an old working he expected to hole through on, and exploded the gas. Miner.
19.	Anth. Sherbrisky,	20	S.	....	Maple Hill,	St. Nicholas,	Slightly burned by an explosion of gas. Laborer.
19.	Felix Kofskie,	56	M.	5	Draper,	Gilberton,	Slightly burned by an explosion of gas. He disobeyed orders and went up to heading with a naked lamp. Starter.
23.	John Mikels,	28	S.	....	Knickerbocker,	Yatesville,	Face and head lacerated and hand mashed. He was about to ignite a blast of dynamite and shortened the squib, causing a premature blast. Starter.
26.	William Hickey,	45	M.	5	Schuylkill,	Mahanoy City,	Hip dislocated. He was crossing a "breast" when the bottom coal slipped out on him. Miner.
27.	Joseph Parrish,	23	S.	....	Draper,	Gilberton,	Fingers bruised and thumb cut off at first joint. Hand caught between rope and sheave pulley. Laborer.
28.	Charles Savage,	46	M.	4	Gilberton,	Gilberton,	Arm fractured and cut about face and body by powder exploding while he was tamping a hole. Miner.

Dec.	8.	Andrew Erzen,	32	M.	2	Kehley Run,	Shenandoah,	Slightly burned by an explosion of gas. Caused by entering schute with a naked lamp. Miner.
	17.	John Verusky,	29	M.	2	Shenandoah City,	Shenandoah,	Head and face cut and shoulders bruised by a fall of coal. Miner.
	24.	William Toll,	40	M.		Packer No. 2,	Lost Creek,	Slightly burned by an explosion of gas. Miner.
	30.	Mike Sevinsky,	37	M.		Packer No. 4,	Lost Creek,	Arm fractured by a fall of coal. Miner.

SEVENTH ANTHRACITE DISTRICT.

(NORTHUMBERLAND, COLUMBIA, SCHUYLKILL AND DAUPHIN COUNTIES.)

Shamokin, Pa., March 1, 1897.

Hon. James W. Latta, Secretary of Internal Affairs, Harrisburg, Pennsylvania:

Sir: I have the honor to present herewith my annual report as Inspector of Coal Mines for the Seventh Anthracite Mining District for the year ending December 31, 1896, as required by section ten, article two of the act of June 2, 1891.

It contains the usual tables and statistics showing location of collieries, total number of tons of coal mined and shipped, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder used, and other information relative to anthracite coal mining.

The total production of coal for the year 1896, was 5,594,649 tons, against 6,184,542 tons in 1895, a decrease of 589,893 tons. The total shipment was 4,975,827 tons for 1896, against 5,715,620 for 1895, a decrease of 739,793 tons.

The number of fatal casualties was 76, an increase of 17 over that of the year 1895. This increase was due chiefly to rope breaking on shaft at Luke Fiddler colliery, which killed four miners, and two boiler explosions at Centralia colliery, which killed six workmen. The greater number of fatalities were attributable to the carelessness and ignorance of the workmen themselves.

The non fatal casualties were 106, against 114 in 1895, a decrease of 6.

Condition of the Collieries.

The condition of the collieries will compare favorably with that of last year, which of course includes the necessary improvements going on from year to year.

Examination of Applicants for Mine Foremen Certificates.

The annual examination of applicants for mine foremen certificates in the Seventh Anthracite District was held at Pottsville, Pa., May 28, 1896, and was presided over by the following board: Ed

ward Brennan, Mine Inspector, Shamokin; Andrew Robertson, coal operator, Shamokin; Robert Muir, miner, Mount Carmel, and Adam Bachman, miner, Ashland.

The candidates who were successful in passing the examination were: Michael J. Whalen, Mount Carmel; Terrence D. Ginley, Locust Dale; John F. Heberling, Williamstown; James Jordan, Shamokin; Edward X. Brennan, Shamokin; Michael Dugan, Shamokin; Harry Gaughan, Shamokin; Daniel W. Briel, Shamokin; John W. Harper, Shamokin; Michael J. McBride, Shamokin; John Campbell, Ashland.

Respectfully submitted,

EDWARD BRENNAN,
Inspector of Mines.

TABLE A.—Comparative Statement of fatal casualties from various causes that occurred during the years 1894, 1895 and 1896.

	1894.	1895.	1896.
Suffocated by smoke from mine fire,	5	.....	.....
Explosions of fire damp,	6	3	4
Falls of coal and roof,	27	23	31
Mine cars and machinery,	12	14	19
Falling down slopes, shafts, manways and breasts,	3	2	4
Explosion of blasting materials,	9	9	3
Kicked by mules,	1	.....	1
Boiler explosions,	7	.....	6
Miscellaneous,	8	8	8
Total,	78	59	76

TABLE B.—Showing number of tons of coal mined by each company number of fatal casualties and number of tons mined for each fatality.

	Tons mined.	Deaths.	Tons mined per death.
Philadelphia and Reading Coal and Iron Company,	2,194,285	24	91,429
Lehigh Valley Coal Company,	203,932	12	16,994
Union Coal Company,	295,056	7	42,150
Mineral Railroad and Mining Company,	295,065	7	42,150
Summit Branch Railroad Company,	390,065	3	130,021
Lykens Valley Coal Company,	312,270	.....	312,270
J. Langdon & Co., Incorporated,	160,619	2	80,309
Individual collieries,	1,261,146	22	57,325
Total,	5,594,649	76	860,044

Table C.—Showing the comparisons of non-fatal casualties for the years 1894, 1895 and 1896.

	1894.	1895.	1896.
Falls of roof and coal,	30	40	34
Explosions of fire damp,	8	16	19
Mine cars and machinery,	27	36	31
Explosion of blasting material,	3	10	3
Kicked by mules,	.....	2	1
Breaking of ropes and chains,	1	.....	.....
Falling down chutes and manways,	2	1	2
Miscellaneous,	5	9	16
Total,	76	114	106

Table D.—Showing comparison of the quantity of coal shipped, the estimated quantity used and sold at collieries, and the total production for the years 1894, 1895 and 1896.

	1894.	1895.	1896.
Quantity of coal shipped,	4,973,335	5,715,620	4,975,827
Quantity of coal used and sold at collieries,	431,488	468,922	618,822
Total,	5,404,823	6,184,542	5,594,649

Table E.—Showing general comparisons between the years 1894, 1895 and 1896.

	1894.	1895.	1896.
Number of persons employed,	19,121	19,399	20,195
Number of tons of coal mined per life lost,	69,293	104,823	73,614
Ratio of employes per life lost,	245	329	266
Number of tons of coal mined per person injured,	71,116	54,250	52,780
Tons of coal mined per employe,	283	319	277

Table F.—Showing the number of persons employed by the several companies, and the number of deaths.

	Number of Deaths.	Number of Employes.
Philadelphia and Reading Coal and Iron Company,	24	7,565
Lehigh Valley Coal Company,	12	1,153
Union Coal Company,	6	3,217
Mineral Railroad and Mining Company,	7	1,627
Summit Branch Railroad Company,	3	1,003
Lykens Valley Coal Company,	.....	985
J. Langdon & Co., Incorporated,	2	510
Individual collieries,	22	4,135
Total,	76	20,195

TABLE No. 1.—Showing location, etc., of collieries in the Seventh Anthracite District, for the year ending December 31, 1896.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Postoffice Address.
Alaska,	Philadelphia & Reading Coal & Iron Co.,	Northumberland,	John Veith,	Pottsville.
Reliance,	Philadelphia & Reading Coal & Iron Co.,	Northumberland,	John Veith,	Pottsville.
North Ashland,	Philadelphia & Reading Coal & Iron Co.,	Columbia,	John Veith,	Pottsville.
Bast,	Philadelphia & Reading Coal & Iron Co.,	Schuylkill,	John Veith,	Pottsville.
Keystone Jig,	Philadelphia & Reading Coal & Iron Co.,	Schuylkill,	John Veith,	Pottsville.
Potts,	Philadelphia & Reading Coal & Iron Co.,	Schuylkill,	John Veith,	Pottsville.
Merriam,	Philadelphia & Reading Coal & Iron Co.,	Northumberland,	John Veith,	Pottsville.
Monitor,	Philadelphia & Reading Coal & Iron Co.,	Northumberland,	John Veith,	Pottsville.
Locust Gap,	Philadelphia & Reading Coal & Iron Co.,	Northumberland,	John Veith,	Pottsville.
Locust Spring,	Philadelphia & Reading Coal & Iron Co.,	Northumberland,	John Veith,	Pottsville.
Buck Ridge,	Philadelphia & Reading Coal & Iron Co.,	Northumberland,	John Veith,	Pottsville.
Big Mountain,	Philadelphia & Reading Coal & Iron Co.,	Northumberland,	John Veith,	Pottsville.
Stirling,	Philadelphia & Reading Coal & Iron Co.,	Northumberland,	John Veith,	Pottsville.
Henry Clay,	Philadelphia & Reading Coal & Iron Co.,	Northumberland,	John Veith,	Pottsville.
Burnside,	Philadelphia & Reading Coal & Iron Co.,	Northumberland,	John Veith,	Pottsville.
Bear Valley,	Philadelphia & Reading Coal & Iron Co.,	Northumberland,	John Veith,	Pottsville.
North Franklin,	Philadelphia & Reading Coal & Iron Co.,	Northumberland,	John Veith,	Pottsville.
Preston No. 2,	Philadelphia & Reading Coal & Iron Co.,	Schuylkill,	John Veith,	Pottsville.
Preston No. 3,	Philadelphia & Reading Coal & Iron Co.,	Schuylkill,	John Veith,	Pottsville.
Geo. Fales washery,	Philadelphia & Reading Coal & Iron Co.,	Northumberland,	John Veith	Wilkes-Barre.
Logan,	Lehigh Valley Coal Co.,	Columbia,	W. A. Lathrop,	Wilkes-Barre.
Centralia,	Lehigh Valley Coal Co.,	Columbia,	W. A. Lathrop,	Wilkes-Barre.
Big Mine run,	Lehigh Valley Coal Co.,	Schuylkill,	W. A. Lathrop,	Wilkes-Barre.
Continental,	Lehigh Valley Coal Co.,	Columbia,	W. A. Lathrop,	Wilkes-Barre.
Morris Ridge,	Lehigh Valley Coal Co.,	Columbia,	W. A. Lathrop,	Wilkes-Barre.
Bellmore,	Lehigh Valley Coal Co.,	Northumberland,	W. A. Lathrop,	Wilkes-Barre.
Montana,	Lehigh Valley Coal Co.,	Columbia,	W. A. Lathrop,	Wilkes-Barre.
Reno,	Lehigh Valley Coal Co.,	Columbia,	W. A. Lathrop,	Wilkes-Barre.
Locust Run,	Lehigh Valley Coal Co.,	Columbia,	W. A. Lathrop,	Wilkes-Barre.
Richards,	The Union Coal Co.,	Northumberland,	John L. Williams,	Shamokin.
Pennsylvania,	The Union Coal Co.,	Northumberland,	John L. Williams,	Shamokin.
Hickory Ridge,	The Union Coal Co.,	Northumberland,	John L. Williams,	Shamokin.
Hickory Swamp,	The Union Coal Co.,	Northumberland,	John L. Williams,	Shamokin.
Cameron,	The Mineral Railroad and Mining Co.,	Northumberland,	John L. Williams,	Shamokin.
Luke Fidler,	The Mineral Railroad and Mining Co.,	Northumberland,	Morris Williams,	Shamokin.
Lambert washery,	The Mineral Railroad and Mining Co.,	Northumberland,	Morris Williams,	Shamokin.
Williamstown,	Summit Branch Railroad Co.,	Dauphin,	Morris Williams,	Lykens.
Short Mountain,	Lykens Valley Coal Co.,	Dauphin,	T. M. Williams,	Lykens.
Natalie,	Natalie Anthracite Coal Company,	Northumberland,	T. M. Williams,	Natalie.
Enterprise,	Enterprise Coal Co.,	Northumberland,	Henry Vincent,	Scranton.
Excelsior,	Excelsior Coal Co.,	Northumberland,	W. L. Connell,	Shamokin.

Corbin,	Excelsior Coal Co.,	Northumberland,	A. Robertson,	Shamokin.
Neilson,	J. Langdon & Co., Inc.,	Northumberland,	Harry S. Gay,	Shamokin.
Mount Carmel,	T. M. Righter & Co.,	Northumberland,	T. M. Righter,	Mount Carmel.
Girard,	Girard Coal Co.,	Northumberland,	Alex. B. Law,	Mount Carmel.
Columbus No. 1,	Shafer, Bickel & Co.,	Northumberland,	Tobias Bickel,	Mount Carmel.
Colbert,	Shipman Coal Co.,	Northumberland,	Geo. S. Comstock,	Shamokin.
Midvalley No. 1,	Midvalley Coal Co.,	Columbia,	Chas. Jasper,	Wilburton.
Midvalley No. 2,	Midvalley Coal Co.,	Columbia,	Chas. Jasper,	Wilburton.

TABLE NO. 2.—Gives the total number of tons of coal mined in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder used, etc., in the Seventh Anthracite District for the year ending December 31, 1896.

Names of Collieries.	Location—County.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Number pounds dynamite used.
Alaska,	Northumberland,	213,916	193,734	170	637	3	2	7,064	32	92	.....	4,391
Reliance,	Northumberland,	140,321	131,480	172	494	2	1	5,134	26	50	.....	3,648
North Ashland,	Columbia,	101,713	92,318	171	422	1	.....	1,881	40	37	1	4,816
East,	Schuylkill,	102,417	93,009	171	419	.....	2	170	46	58	.....	20,480
Keystone Jig,	Schuylkill,	20,453	15,190	48	2	.....	.....	.....	14	5	.....	.....
Potts,	Schuylkill,	93,901	85,693	174	363	.....	.....	1,135	31	37	.....	17,357
Merriam,	Northumberland,	104,656	96,022	169	539	4	4	1,451	21	64	.....	20,264
Monitor,	Northumberland,	48,975	42,880	157	179	1	.....	722	16	28	.....	1,482
Locust Gap,	Northumberland,	167,477	147,149	172	468	2	.....	2,927	14	41	1	2,404
Locust Spring,	Northumberland,	145,219	138,279	174	508	1	1	3,472	24	63	1	5,329
Buck Ridge,	Northumberland,	51,799	44,763	182	174	1	4	813	24	17	.....	2,358
Big Mountain,	Northumberland,				417	1	3		28		1	
Stirling,	Northumberland,	408,967	372,690	185	346	3	8	8,030	20	197		22,233
Henry Clay,	Northumberland,				629	2	1		10		3	
Burnside,	Northumberland,	242,709	233,948	181	663	3	5	4,729	16	96	.....	7,513
Bear Valley,	Northumberland,	160,944	152,467	181	483	.....	1	4,320	22	58	1	3,510
North Franklin,	Northumberland,	132,451	123,803	183	406	.....	1	1,923	25	41	.....	16,250
Preston No. 2,	Schuylkill,	.....	.....	.....	14	.....	.....	.....	.....	.....	.....	9
Preston No. 3,	Schuylkill,	58,367	51,134	96	402	.....	1	113	21	39	.....	13,526
Geo. Bales washery,	Northumberland,	.....	3,572	.....	.....	.....	.....	.....	.....	.....	.....	.....
Logan,	Columbia,	40,759	32,895	57	430	5	3	1,670	28	31	1	.....
Centralia,	Columbia,	106,896	86,066	136	511	6	2	1,985	19	47	1	.....
Big Mine Run,	Schuylkill,	56,277	52,981	118	146	1	.....	242	1	35	.....	.....
Continental,	Columbia,	.....	.....	.....	2	.....	.....	.....	21	.....	.....	.....
Morris Ridge,	Columbia,	.....	.....	.....	14	.....	.....	.....	22	1	.....	.....

Bellmore	Northumberland				52		3		18	53		
Montana	Columbia											
Reno	Columbia											
Locust Run	Columbia				18				16	2		
Richards	Northumberland	301,425	279,425	160	1,128	3	6	10,105	12	80	1	
Pennsylvania	Northumberland	240,946	212,187	166	915		11	8,478	30	56	2	
Hickory Ridge	Northumberland	135,562	124,389	153	669	3	2	3,018	27	46	2	
Hickory Swamp	Northumberland	99,343	93,609	156	505		4	2,613	12	42		
Cameron	Northumberland	270,894	229,550	178	1,362	3	13	9,248	29	129	1	25,985
Luke Fidler	Northumberland	3,788	3,788		239	4		424	14	21	1	38,345
Lambert washery	Northumberland	20,374	488	208	26				4		1	
Williamstown	Dauphin	360,067	290,163	280	1,003	3	2	4,440	94	126	5	
Short Mountain	Dauphin	312,270	257,448	260	985		1	3,327	67	150	5	
Natalie	Northumberland	282,500	264,100	201	1,037	5	4	9,860	32	102	3	
Enterprise	Northumberland	184,379	169,678	178	480	2	8	5,089	28	42	1	4,125
Excelsior	Northumberland	158,741	149,988	198	391			4,840	32	54	1	2,000
Corbin	Northumberland	76,391	61,942	194	205			3,291	11	18		2,350
Neilson	Northumberland	160,619	133,973	196	510	4	4	2,340	19	54		
Mount Carmel	Northumberland	126,682	114,935	177	376	1	3	1,392	33	35	1	
Girard	Northumberland	84,600	80,823	239	319	5	3	1,690	2	32		
Columbus No. 1	Northumberland	94,948	79,418	147	342	3	1	2,075	19	32		
Colbert	Northumberland	70,943	67,293	198	308	1	1	2,290	9	30		
Midvalley No. 1	Columbia	122,196	114,381	176	508	2	1	2,785	6	54	2	
Midvalley No. 2	Columbia	71,766	67,176	176	169	1		1,856	3			
	Total	5,594,649	4,975,827	6,518	20,195	76	166	126,522	1,038	2,087	36	218,375

TABLE No. 3.—Showing the number of each class of employes at each colliery in the Seventh Anthracite District during the year 1896

Names of Collieries.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							
	Inside foremen.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Doorboys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All other company men.	Superintendents, bookkeepers and clerks.	Total outside.	Grand total—inside and outside.
Alaska,	3	227	40	81	45	17	413	1	9	25	111	76	2	224	637
Reliance,	4	183	30	37	20	8	282	1	8	21	109	71	2	212	494
North Ashland,	3	65	14	78	11	5	176	1	3	25	114	102	1	246	422
Bast,	10	39	9	129	17	20	224	1	5	23	100	64	2	195	419
Keystone Jig,								1				1		2	2
Potts,	6	81	41	66	12	10	216	1	4	19	67	55	1	147	363
Merriam,	5	122	59	140	25	14	365	1	8	27	76	60	2	174	539
Monitor,	2	47	8	26	6	4	93	1	3	4	48	29	1	86	179
Locust Gap,	5	156	28	87	16	6	298	1	6	16	90	55	2	170	468
Locust Spring,	4	159	24	105	14	3	309	2	7	21	102	65	2	199	508
Buck Ridge,	3	46	7	28	3	7	94	1	3	17	35	23	1	80	174
Big Mountain,	5	184	46	77	31	7	350	1	3	15		46	2	67	417
Sterling,	5	112	23	129	20	9	298	1	4	14		28	1	48	346
Henry Clay,	2	63	44	61	20	1	192	2	15	22	247	147	4	437	629
Burnside,	5	235	61	46	31	5	383	1	8	21	127	121	2	280	663
Bear Valley,	3	160	18	82	13	8	284	1	5	16	107	68	2	199	483
North Franklin,	2	62	39	66	14	2	186	1	10	17	99	92	1	220	406
Preston No. 2,				2			2					12		12	14
Preston No. 3,	7	41	16	131	15	13	223	1	5	19	85	68	1	179	402
Geo. Fales washery,															
Logan,	1	103	45	70	15	3	237	1	5	12	97	75	3	193	430
Centralia,	1	130	40	94	18	5	288	1	11	18	118	73	2	223	511
Big Mine Run,	1	5	13	12	4		35	1	5	2	37	64	2	111	146

Continental											2		2	2
Morris Ridge	1			7		8			4		2		6	14
Bellmore	2			6		8	1	2	8		13		24	32
Montana														
Reno														
Locust Run		2	1			3	1	2	7		5		15	18
Richards	2	456	132	167	27	12	790	1	5	16	85	229	2	338	1,128
Pennsylvania	1	320	127	156	43	16	661	1	7	33	85	126	2	254	915
Hickory Ridge	1	165	67	116	116	2	467	1	7	19	94	79	2	202	669
Hickory Swamp	1	172	38	101	26	14	372	1	7	13	40	70	2	133	505
Cameron	8	486	106	271	63	43	977	1	16	28	188	154	3	385	1,362
Luke Fidler	5	61	12	78	5		161	1	6	24		44	3	78	239
Lambert washery										3		23		26	26
Williamstown	5	320	103	121	55	7	611	2	13	30	122	202	3	392	1,003
Short Mountain	7	270	195	110	89	14	683	2	19	29	118	131	3	302	985
Natalie	2	354	211	48	41	8	665	1	22	19	87	240	3	372	1,037
Enterprise	2	206	53	33	35	4	333	1	8	25	72	98	3	147	480
Excelsior	3	144	61	42	22	3	275	4	7	4	54	44	3	116	391
Corbin	2	77	30	20	9		138	2	2	4	31	26	2	67	205
Neilson	5	211	64	23	50	4	357	1	6	18	63	61	4	153	510
Mount Carmel	1	92	80	42	11	5	231	2	4	10	67	59	3	145	376
Girard Colliery	1	95	37	68	15	1	217	1	3	6	42	47	3	102	319
Columbus No. 1	4	142	21	63	16	6	252	1	3	10	32	41	3	90	342
Colbert	1	150	15	28	10	4	208	1	3	6	67	21	2	100	308
Midvalley No. 1	1	120	39	65	16	1	242	1	10	13	124	114	4	266	508
Midvalley No. 2	1	87	28	16	7	1	140		1	11		17		29	169
Total	134	6,144	2,043	3,128	1,006	292	12,747	50	280	709	3,140	3,183	86	7,448	20,195

TABLE No. 4.—List of Fatal Accidents that occurred in and about the Mines of the Seventh Anthracite District for the Year ending December 31, 1896.

Date of accident.	Name of Person.	Age.	Married or single.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident in Brief.
Dec. 13,	John Whalen,				Locust Gap,	Northumberland,	While making his rounds as watchman he fell and hurt his hip. Died January 13, 1897.
Jan. 2,	Michael Gunder,				Girard,	Northumberland,	Fatally burned by gas.
2,	Joseph Olsnavage,				Enterprise,	Northumberland,	Killed by fall of top coal.
4,	Harry Hadesty,				North Ashland,	Columbia,	Killed by fall of top coal.
5,	Patrick Lynch,				Luke Fidler,	Northumberland,	Killed by rope breaking on sinking shaft.
5,	James Merritt,				Luke Fidler,	Northumberland,	Killed by rope breaking on sinking shaft.
5,	Steve Merritt,				Luke Fidler,	Northumberland,	Killed by rope breaking on sinking shaft.
5,	Peter Boher,				Luke Fidler,	Northumberland,	Killed by rope breaking on sinking shaft.
7,	Joseph Blasco,				Burnside,	Northumberland,	Killed by loaded car on plane.
8,	Anthony Brezitus,				Logan,	Columbia,	Killed by fall of top rock.
14,	Patrick Graham,				Big Mine Run,	Schuylkill,	Killed by frozen dirt falling on him.
14,	Frank Derlon,				Stirling,	Northumberland,	Killed by fall of top slate.
15,	Matthias Profit,				Alaska,	Northumberland,	Killed by fall of top coal.
22,	John Wenck,				Henry Clay,	Northumberland,	Killed by being caught in scraper line.
27,	John Glassick,				Neilson,	Northumberland,	Killed by explosion of gas.
27,	Frank Caustick,				Neilson,	Northumberland,	Killed by explosion of gas.
Feb. 14,	Daniel E. Enders,	48			Williamstown,	Dauphin,	Killed by fall of coal.
24,	Mike Roveack,				Centralia,	Columbia,	Killed by boiler explosion.
24,	Anthony Socaski,				Centralia,	Columbia,	Killed by boiler explosion.
Mar. 5,	George Boliko,	23	S.		Monitor,	Northumberland,	Killed by fall of top slate.
12,	Charles Kroh,				Cameron,	Northumberland,	Smothered by rush of coal.
18,	Joseph Boden,				Henry Clay,	Northumberland,	Killed by fall of top rock.
May 7,	John Hall,				Girard,	Northumberland,	Killed by fall of top rock.
12,	Alex. Kerschefski,				Girard,	Northumberland,	Killed by fall of top slate.
13,	Samuel Maurer,				Columbus No. 1,	Northumberland,	Killed by falling down manway.
14,	Benjamin Scruple,				Girard,	Northumberland,	Killed by fall of top rock.
19,	William Goss,				Big Mountain,	Northumberland,	Squeezed between wagons.
21,	Peter Michaeli,				Hickory Ridge,	Northumberland,	Killed by fall of top coal.
25,	Steve Savage,				Hickory Ridge,	Northumberland,	Killed by fall of top coal.

June	1.	John Thompson,				Buck Ridge,	Killed by explosion of gas.
	9.	Peter Donofski,				Nelson,	Killed by fall of rock.
	9.	Paul Shemski,				Nelson,	Killed by fall of rock.
	23.	Levi Lukens,				Alaska,	Killed by fall of rock.
July	8.	Anthony Bressus,				Logan,	Killed by fall of rock.
	17.	Joe Ladawick,	26	M.		Merriam,	Smothered by rush of coal.
	20.	Clemens Bilvan,	22	S.		Logan,	Killed by fall of coal.
	22.	Walley Bartrusic,	50	M.		Burnside,	Killed by prop falling on him.
	23.	Mike Barto,	38	M.	3	Enterprise,	Killed by fall of top coal.
	24.	Anthony McDonald,	58	M.		Logan,	Killed by fall of top slate.
	24.	James Shuttlesworth,				Williamstown,	Killed by falling down manway.
Aug.	4.	John Borinski,				Alaska,	Killed by fall of clod.
	7.	Thos. Couthern,				Burnside,	Killed by mine wagons.
	11.	Michael Farley,				Merriam,	Killed by falling off car on slope.
	12.	Andrew Mildus,				Reliance,	Caught between mine cars.
	28.	Chas. Olshefski,				Sterling,	Killed by fall of top slate.
Sept.	7.	Harry Witman,		S.		Merriam,	Caught between car and schute.
	15.	Frank Witcosky,	27	M.	2	Hickory Ridge,	Squeezed between mine cars.
	16.	Mike Kokus,				Natalie,	Killed by fall of top rock.
	22.	John Simons,				Logan,	Killed by dirt dumper falling on him.
	23.	Frank Bublow,	37	M.	4	Stirling,	Killed by fall of slate.
	24.	John Jones,	19	S.		Merriam,	Killed by timber falling on him.
	24.	Paul Walbick,				Natalie,	Killed by fall of top clod.
Oct.	3.	John Toad,	32	M.		Mount Carmel,	Killed by fall of top rock.
	6.	John Capilla,				Columbus No. 1,	Killed by shot blowing through pillar.
	19.	Elmer Warner,				Cameron,	Killed by being kicked by a mule.
	24.	Peter Gulick,	26	M.		Midvalley No. 1,	Killed by empty truck jumping track on him.
	14.	Timothy McHugh,				Colbert,	Killed by fall of top rock.
	30.	Joseph Gesalovick,				Richards,	Killed by falling down manway.
	30.	Benjamin Neggett,				Williamstown,	Killed by being struck by hoisting rope.
	31.	Stany Gimbatuk,	18	S.		Hickory Ridge,	Killed by fall of top coal.
Nov.	2.	Joseph Zesalovitz,				Richards,	Killed by falling down manway.
	3.	Babtisto Leonardi,				Columbus No. 1,	Killed by premature explosion.
	4.	Jacob Tainten,				Reliance,	Killed by fall of clod.
	4.	Dennis McCall,		S.		Reliance,	Killed by fall of clod.
	7.	Matthew Lesher,	56	S.		Midvalley No. 2,	Killed by keg of powder exploding.
	7.	John Saunckey,				Centralia,	Killed by boiler explosion.
	7.	Andrew Munchock,				Centralia,	Killed by boiler explosion.
	7.	Joseph Cupid,				Centralia,	Killed by boiler explosion.
	9.	Martin Langan,		S.		Natalie,	Killed by being struck by mine car.
	10.	Alfred Brognard,				Cameron,	Head crushed between steam pipe and car.
	19.	Andrew Warerick,				Midvalley No. 1,	Killed by fall of rock.
	20.	John Farko,	30	M.	2	Locust Spring,	Squeezed between railroad cars.
	30.	Mike Silwalskie,	25	S.		Richards,	Squeezed between railroad cars.
Dec.	8.	John Morgan,	45	M.	3	Natalie,	Killed by premature explosion.
	8.	John Madusac,	19	S.		Natalie,	Smothered in dirt hopper.
	10.	W. H. Williams,	52	M.		Girard,	Killed by fall of top coal.

TABLE No. 5.—List of Non-Fatal Accidents that occurred in and about the mines of the Seventh Anthracite District for the year ending December 31, 1896.

Date of accident.	Name of Person.	Name of Colliery.	Location—County.	Nature and Cause of Accident in Brief.
Jan. 2,	Geo. D. Stine,	Richards,	Northumberland,	Arm broken by falling from ladder.
7,	John Schmigelski,	Stirling,	Northumberland,	Face and head hurt by premature explosion.
8,	Joseph Victor,	Cameron,	Northumberland,	Spine fractured by rush of coal.
9,	Mike Karpiack,	Stirling,	Northumberland,	Leg broken by fall of coal.
10,	John Toad,	Mount Carmel,	Northumberland,	Bruised between cars.
10,	William Dewalt,	Cameron,	Northumberland,	Arm broken; bumped between cars.
11,	John Doncheski,	Big Mountain,	Northumberland,	Face burned by explosion of gas.
13,	Lawrence Washalafski,	Sterling,	Northumberland,	Leg broken and body injured by fall of top coal.
17,	Richard Dugan,	Columbus No. 1,	Northumberland,	Hand blown off by dynamite.
20,	Andrew Conisky,	Enterprise,	Northumberland,	Head injured by fall of rock.
22,	Benjamin Woodling,	Enterprise,	Northumberland,	Two fingers cut off by falling machinery.
22,	Charles Daliza,	Enterprise,	Northumberland,	Leg broken by a rolling piece of coal.
23,	Robert Waugh,	Natalie,	Northumberland,	Leg broken by fall of coal.
25,	Paul Palchia,	Pennsylvania,	Northumberland,	Arm broken by fall of coal.
30,	James Blyshock,	Hickory Swamp,	Northumberland,	Arm broken by falling down slope.
Feb. 4,	Frank Hauk,	Merriam,	Northumberland,	Hand crushed by being caught between timber.
9,	Charles Bott,	Big Mountain,	Northumberland,	Leg broken by mine wagon.
10,	Lewis Steeley,	Natalie,	Northumberland,	Head injured by mine car.
26,	William Pickens,	Logan,	Columbia,	Leg broken; bumped between dumpers.
27,	Joseph Coritskie,	Pennsylvania,	Northumberland,	Leg broken by wagon running over it.
Mar. 2,	John Pookis,	Neilson,	Northumberland,	Cut and bruised by fall of top rock.
2,	Andrew Dobaski,	Neilson,	Northumberland,	Cut and bruised by fall of top rock.
10,	John Shulto,	Cameron,	Northumberland,	Leg broken by fall of rock.
10,	Andrew Phillipjack,	Girard,	Northumberland,	Ribs broken by fall of rock.
12,	John Gallagher,	Locust Spring,	Northumberland,	Ribs broken; knocked against dumper.
16,	John Timlin,	Bast,	Schuylkil,	Leg broken by timber rolling on it.
17,	Michael Skovish,	Cameron,	Northumberland,	Leg broken by fall of coal.
21,	James Berryman,	Richards,	Northumberland,	Cut and bruised by fall of rock.
23,	Charles Newton,	Williamstown,	Dauphin,	Leg broken by fall of slate.
30,	James Lean,	Big Mountain,	Northumberland,	Leg broken by fall of slate.
April 1,	Louis Macellette,	Girard,	Northumberland,	Arm broken and head cut by shot.
6,	Charles Noah,	Merriam,	Northumberland,	Arm broken by falling from car.

	7.	Carl Tyson,	Burnside,	Northumberland,	Shoulder and collar bone broken; squeezed between mine cars.
	8.	Joseph Morrow,	Burnside,	Northumberland,	Leg broken by fall of coal.
	13.	Chas. Treibelpeice,	Stirling,	Northumberland,	Shoulder broken by mine cars.
	15.	Michael Sullen,	Pennsylvania,	Northumberland,	Injured by falling down breast.
	15.	Joseph Huspeck,	North Franklin,	Northumberland,	Thigh bruised; struck by mine car.
	25.	Valentine Pernak,	Short Mountain,	Dauphin,	Struck on stomach by a bar.
May	4.	Joseph Bevan,	Centralia,	Columbia,	Collar bone broken by being struck by dumper.
	4.	John Lyons,	Alaska,	Northumberland,	Arm broken by jumping.
	6.	Robert Ellis,	Logan,	Columbia,	Back hurt by fall of slate.
	6.	John Welsh,	Logan,	Columbia,	Foot cut by fall of coal.
	14.	George Andrash,	Bellmore,	Northumberland,	Burned by explosion of gas
	14.	John Andrash,	Bellmore,	Northumberland,	Burned by explosion of gas.
	14.	George Bolshi,	Bellmore,	Northumberland,	Burned by explosion of gas.
	16.	Mike Sabol,	Hickory Ridge,	Northumberland,	Finger cut off by mine wagon.
	19.	Stany Contgo,	Richards,	Northumberland,	Foot squeezed between cars.
	20.	Peter Walshefsky,	Girard,	Northumberland,	Skull fractured by rock falling.
	25.	John Vanko,	Pennsylvania,	Northumberland,	Foot bruised by falling off dumper.
	28.	August Kopinis,	Merriam,	Northumberland,	Fingers mashed by rope and block.
	28.	Geo. W. Miller,	Hickory Swamp,	Northumberland,	Leg broken; fell from a log wagon.
June	1.	Levi Kastetter,	Burnside,	Northumberland,	Leg broken by timber rolling on it.
	1.	Samuel Faust,	Buck Ridge,	Northumberland,	Burned by gas.
	1.	Daniel Schmeltz,	Buck Ridge,	Northumberland,	Burned by gas.
	1.	Jacob Seadul,	Buck Ridge,	Northumberland,	Burned by gas.
	1.	John Specht,	Buck Ridge,	Northumberland,	Burned by gas.
	2.	Chas. Parsick,	Reliance,	Northumberland,	Jaw broken; kicked by a mule
	3.	Jos. Bieroskie,	Richards,	Northumberland,	Arm cut off by fall of top slate.
	4.	Jas. Udasky,	Hickory Swamp,	Northumberland,	Leg broken by fall of top coal.
	4.	Joseph Casey,	Preston No. 3,	Schuylkill,	Elbow broken; struck by coal.
	5.	Daniel Gallagher,	Colbert,	Northumberland,	Arm cut off; fell under mine cars.
	8.	John Garrade,	Bast,	Schuylkill,	Arm broken; slipped and fell on T rail.
	10.	John Korufsky,	Enterprise,	Northumberland,	Leg broken by flying pieces of coal.
	17.	Thos. McDevitt,	Cameron,	Northumberland,	Foot bruised; mine car ran over it
	19.	Thos. Dowd,	Cameron,	Northumberland,	Arm broken by fall of top coal.
July	9.	Lewis Album,	Pennsylvania	Northumberland,	Burned by explosion of gas.
	9.	Joseph Lauer,	Cameron,	Northumberland,	Ribs broken by falling under mine car.
	16.	Arch. Thompson,	Cameron,	Northumberland,	Burned by explosion of gas.
	16.	Howard Hoy,	Cameron,	Northumberland,	Burned by explosion of gas.
	16.	James Quinn,	Cameron,	Northumberland,	Burned by explosion of gas.
	30.	Alex. Worcollic,	Natalie,	Northumberland,	Leg broken by fall of top coal.
Aug.	10.	Stany Succolosky,	Enterprise,	Northumberland,	Seriously injured by fall of slate.
	13.	Andrew Breble,	Pennsylvania,	Northumberland,	Burned by explosion of gas.
	13.	Wally Shecoski,	Pennsylvania,	Northumberland,	Burned by explosion of gas.
	17.	Felix Winger,	Pennsylvania,	Northumberland,	Burned by explosion of gas.
	17.	Henry Sennett,	Henry Clay,	Northumberland,	Arm broken by fall of slate.
	18.	Elmer Wilson,	Burnside,	Northumberland,	Foot cut off; fell under car.
	18.	Samuel Sinnester,	Williamstown	Dauphin,	Seriously injured by falling from platform.
	29.	E. J. Sipple,	Mount Carmel,	Northumberland,	Foot broken; caught in guard rail
	29.	Mike Labetnick,	Mount Carmel,	Northumberland,	Leg broken by fall of top coal.
Sept.	14.	John Scarrick,	Stirling,	Northumberland,	Ankle broken by fall of top coal.
	15.	Andrew Niarsock,	Stirling,	Northumberland,	Thigh broken by fall of top coal.
	23.	Henry Dunmoyer,	Cameron,	Northumberland,	Collar bone broken by mine wagons.
Oct.	6.	Chas. Novitskey,	Richards,	Northumberland,	Leg broken by coal rolling on it.

Table No. 5.—Continued.

Date of accident.	Name of Person Injured.	Name of Colliery.	Location—County.	Nature and Cause of Accident in Brief.
Oct. 8,	Andrew Surine,	Pennsylvania,	Northumberland,	Leg broken by flying coal.
14,	Anthony Dehr,	Alaska,	Northumberland,	Leg broken by fall of coal.
14,	Patrick Conway, Jr.,	Centralia,	Columbia,	Leg broken by fall of slate.
16,	Frank Matistic,	Neilson,	Northumberland,	Collar bone broken by concussion of air.
19,	Peter Smith,	Cameron,	Northumberland,	Seriously injured by mine car on slope.
21,	John Little,	Enterprise,	Northumberland,	Squeezed between mine cars.
22,	James Dormer,	Enterprise,	Northumberland,	Squeezed between mine cars.
23,	John Ponto,	Hickory Ridge,	Northumberland,	Leg broken by fall of coal.
26,	John Consavage,	Richards,	Northumberland,	Knee crushed by mine car.
26,	Stany Vislnefski,	Pennsylvania,	Northumberland,	Leg broken by mine car.
29,	Martin Downs,	Cameron,	Northumberland,	Leg broken by coal rolling down slope.
Nov. 2,	Lawrence Bertoline,	Enterprise,	Northumberland,	Burned by powder through using naked lamp.
9,	James Harris,	Burnside,	Northumberland,	Arm broken by mine cars.
10,	Mike Midroco,	Natalie,	Northumberland,	Knee broken by mine cars.
16,	James McCormick,	Bear Valley,	Northumberland,	Arm broken by fall of rock.
17,	George Treibelpiece,	Stirling,	Northumberland,	Leg broken by being struck by a wire rope.
19,	Andrew Kruchara,	Hickory Swamp,	Northumberland,	Ankle broken by fall of rock.
24,	Joseph Krieger,	Pennsylvania,	Northumberland,	Arm broken by dirt dumper.
20,	Andrew Smith,	Stirling,	Northumberland,	Arm broken by flying coal.
Dec. 28,	Geo. Probel,	Neilson,	Northumberland,	Burned by gas.
28,	Patrick Hanney,	Merriam,	Northumberland,	Face and hands burned by gas.
28,	Samuel Reidinger,	Midvalley No. 1,	Columbia,	Face and hands burned by gas.

EIGHTH ANTHRACITE DISTRICT.

(SCHUYLKILL COUNTY.)

Pottsville, Pa., March 6, 1897.

Hon. James W. Latta, Secretary of Internal Affairs, Harrisburg, Pennsylvania:

Sir: I have the honor of herewith presenting my annual report as Inspector of Mines of the Eighth Anthracite District for the year ending December 31, 1896.

The total production of coal for the year was 4,239,847 tons. The total shipment was 3,771,662 tons, which is 98,789 tons more than was shipped during the year 1895.

The number of fatal accidents during the year was 46, leaving 19 wives widows and 65 children fatherless. The number of non-fatal accidents was 140.

The total number of persons employed in and about the mines shows an increase of 1,929 persons over that of the year 1895, which is equal to an increase of nearly 17 per cent.

In addition to the usual tabulated statistics, I send a brief description of the principal improvements made at the collieries during the year, also a description of each of the fatal accidents, and other matter which may be of interest.

By the courtesy of Messrs. A. B. Cochran & Son, Mining Engineers for the Lehigh Valley Coal Company, and Mr. Edward E. Kaercher, Engineer for the Philadelphia and Reading Coal and Iron Company, I am enabled to send a sketch and section showing the plan of filling the finished or exhausted workings of the York Farm colliery with culm, and a sketch showing the workings of the Middle Creek Shaft colliery at the time of the outburst and explosion of gas on the evening of the 24th of September last, by which four men lost their lives.

The general condition of the collieries in this district compares favorably with what they have been in the past, as most of the operators, and especially the larger companies, are constantly making improvements and taking advantage of every improement which tends to the protection of life and property, and the equipment of the collieries is being raised to a more advanced standard every year. Yet the number of accidents is

far in excess of what they should be, and while much has been written on this subject and many theories have been advanced as to what means should be adopted for the prevention of accidents, I am of the opinion that many of the accidents would be averted if more vigilance and the better enforcement of discipline were exercised by some of the officials who are in charge of the mines.

While many of the accidents that occur are not noticed at the time, yet they amount to a large number at the end of the year, and that they are the result of carelssness cannot be denied; but there is no doubt that in many cases the accident is not only due to the carelessness of the workmen, but also to the lack of vigilance on the part of some one whose duty it should be to see that each man went about his work properly and kept his working place in as safe a condition as possible.

It is not the fair thing to allow workmen, many of whom have very limited experience, particularly since "the act to prevent the employment of incompetent persons as miners in anthracite coal mines" went into effect, to do as they please and then accuse them of carelessness if they meet with accidents. It is true there are some accidents that may be called unavoidable; the occupation of the miner is a hazardous one at the best, and many dangers are encountered that cannot be foreseen by the most experienced miners and careful foremen.

Another factor that contributes to the number of accidents is the short time worked at the collieries. During the year 1896 little more than half time has been worked. Miners try to get out as many cars of coal or cut as many yards as they can during the working days, and so they neglect to keep their places in as safe a condition as they should be in regard to timbering and keeping the air up, unless they are compelled to do so. The working places stand idle for from three to five days at a time and during that time overhanging pieces that probably may have been left hanging after shots have been fired before ceasing work on the last working day, and which are ready to fall at the least disturbance of the surroundings, when work is resumed suddenly fall.

Yours very respectfully,

JOHN MAGUIRE,
Inspector of Mines.

Summary, Eighth Anthracite District, 1896.

Tons of coal produced,	4,239,847
Tons of coal shipped and sold at mines,	3,771,662

Tons of coal used at mines for steam and other purposes,	468,185
Tons of coal produced by washeries which are included in total production,	202,032
Number of fatal accidents,	46
Number of non-fatal accidents,	140
Number of wives left widows,	19
Number of children left fatherless,	65
Number of persons employed,	13,235
Number of kegs of powder used,	66,199
Number of pounds of dynamite used,	377,915½
Number of steam boilers in use,	760
Number of horses and mules,	1,328
Number of mine locomotives,	21
Tons of coal produced per fatal accident,	92,170½
Tons of coal produced per each employe,	318

Table showing quantity of coal produced, number of fatal accidents and number of tons of coal produced per life, lost by the different companies during the year 1896:

	Quantity of coal produced in tons.	Number of fatal accidents.	Quantity of coal produced per life lost.
Philadelphia and Reading Coal and Iron Company,	1,948,984	24	81,207⅔
Lehigh Coal and Navigation Company,	649,864	2	324,932
Lehigh Valley Coal Company,	137,407	2	68,703½
Dodson Coal Company,	367,542	6	61,257
St. Clair Coal Company,	49,703	1	49,703
Lytle Coal Company,	200,264	3	100,132
Albright Coal Company,	53,743	5	10,748⅗
Williams Coal Company,	66,260	2	33,086½
Leisenring & Co.,	160,378	1	160,378
Other companies and individuals,			

Table showing the number of each class of employes in the Eighth Anthracite District in 1896:

Inside.

Inside foremen,	124
Miners,	3,400
Miners' laborers,	1,364
All other company men,	2,491
Drivers and runners,	499

Door-boys and helpers,	175	
Total inside in 1896,		8,053
Total inside in 1895,		6,725
Increase inside in 1896,		1,328

Outside.

Outside foremen,	57	
Blacksmiths and carpenters,	220	
Engineers and firemen,	515	
Slate pickers,	2,172	
All other company men,	2,243	
Superintendents and clerks,	75	
Total outside in 1896,		5,282
Total outside in 1895,		4,681
Increase outside in 1896,		601

Total increase inside and outside in 1896, 1,929, or nearly 17 per cent.

Classification of fatal and non fatal accidents for 1896.

Causes of Accidents.	Fatal inside.	Fatal outside.	Non-fatal inside.	Non-fatal outside.	Total inside and outside.
Falls of coal,	3		18		21
Falls of slate and rock,	7		21		28
Explosion of gas,	10		35		45
Explosion of powder,	1		1		2
Explosion of blasts,		1	7		8
Falling down shaft and slopes,	2				2
Outburst of gas,	2		7		3
By mine cars and dirt dumpers,	3		1		4
Falling down manways,	4	2	20	9	35
Kicked by mules,	1		2		3
Caught between wire rope and drum,		1			1
By log rolling on him on timber bank,		1			1
By timber falling while handling it,	1		3	1	5
By hammer falling on him,	1				1
Smothered in loose coal,	1				1
Struck by coal flyin from a blast,	1		1		2
Run over by gunboat in slope,	1				1
Caught by revolving fan shaft,		1			1
Caught by breaker machinery,		1		4	5
Fell from breakers,		1		3	4
By steam pipes bursting,			1	2	3
Miscellaneous,			7	3	10
Total accidents,	38	8	118	22	186

Nationalities of those killed and injured.

	Killed.	Injured.
Poles,	12	22
Americans,	11	34
Irish,	10	19
Germans,	6	17
English,	3	8
Hungarians,	2	23
Italians,	1	2
Welsh,	1	12
Russian,		1
Austrian,		1
Hebrew,		1
Total,	46	140

The examination of candidates for certificates as mine foremen and assistant mine foremen was held at Pottsville, Pa., in May, 1896.

The examining board was composed of Thomas Doyle, superintendent; David Tucker and Thomas Holihan, miners, and John Maguire, Mine Inspector.

The following were recommended to the Secretary of Internal Affairs for certificates of qualification:

William Lishman, of St. Clair, as mine foreman.
Thomas J. Hawkins, of Middleport, as mine foreman.
John J. Brennan, of Heckesherville, as mine foreman.
Thomas Evans, of Minersville, as mine foreman.
Thomas Llewellyn, of Morea, as mine foreman.
John Foley, of Joliette, as assistant mine foreman.
George Minnichback, of Pottsville, as assistant mine foreman.
Joseph Bosche, of St. Clair, as assistant mine foreman.
Patrick J. Field, of New Boston, as assistant mine foreman.
Patrick J. Field, of New Boston, as mine foreman.
Mich. J. White, of Heckscherville, as assistant mine foreman.
Frank Reilly, of Branchdale, as assistant mine foreman.
Oscar Rowe, of Tower City, as assistant mine foreman.
Oliver Machemer, of Tower City, as assistant mine foreman.

Description of Fatal Accidents.

Andrew Katchules, a Hungarian laborer, was instantly killed January 7th while working in the stripping at Morea colliery. Two holes had been drilled in the soil about eight feet apart and about four and a half feet deep each; these holes were first squibbed with a small piece of dynamite and then charged with one stick of dynamite and about half a keg of powder in each; the dynamite with fuse attached was first rammed to the bottom of the hole and the powder put above. Katchules having assisted the chargeman to charge the holes, he lighted one of them while the chargeman

lighted the other. One of the holes exploded with a loud report, while the other made only a dull sound, the men then returned to work, Katchules being the first. When he got to where the holes had been, another explosion occurred which hurled him some distance away and killed him. Had the explosion occurred a few seconds later, the loss of life would no doubt have been greater, as ten other men were following him andwere only a few feet behind him when the explosion occurred. I am of the opinion that in ramming the dynamite to the bottom of the hole some stuff had been tamped on top of it, which being between the dynamite and the powder prevented the dynamite from exploding the powder, and the fuse having been ignited by the dynamite, it smouldered until it reached the powder, which caused the second explosion.

John Ruscavage, a Pole, working as a miner at Oak Hill colliery, was injured by a piece of slate falling on his head on January 14th, from the effect of which he died next day. He was working in a breast in the Primrose vein which was nine feet thick at that place. Three feet and a half from the bottom there was a dividing slate nine inches thick. He had fired a shot in the bottom coal and was dressing the loose coal off, when a piece of the dividing slate about four feet long, nine inches wide and nine inches thick fell and struck him on the head fracturing his skull, from the effects of which he died.

James McGear, a laborer, was burned by an explosion of gas at Kaska William colliery on the night of January 24th and died from the effects at the Miner's Hospital at Ashland on January 30th. He was working with James Allen, a miner, and Charles Lemborn, a laborer in the schutes and headings in the Mammoth vein. After firing a shot they retreated out through the heading to the second schute from the place in which they were working, and above which schute a test hole had been driven up about twelve yards above the heading. They got up this hole to get out of the way of flying coal from the shot, when an explosion of gas occurred which burned all three of them and from the effects of which McGear died, but the others recovered. The mine foreman, fire boss and one of the miners testified that they had been up this hole a few hours before the accident and found it clear of gas.

Nicholas Boran, a miner, was fatally burned by an explosion of powder at the Thomaston colliery on January 29th and died from the effects on the 30th. He was working in the West Daniel gangway with two laborers and went to his box, which was about one hundred and fifty feet back from the face of the gangway, to prepare a shot of powder. The box contained one full keg of powder with a small quantity in another keg and also some dynamite. By some means the powder was ignited and the explosion

blew open a door which was over sixty feet away and also blew out one set of the gangway timber. Borans was found fearfully burned with all his clothing blown off.

John Weldon, driver, was severely injured on February 26th, at the Lehigh Coal and Navigation Company's No. 10 colliery and died from the effects on the 28th. He was driving on the rock banks outside and while unhitching his mule near the end of the bank, he slipped and fell in front of the dumper and received injuries from which he died. The ground having been covered with wet snow on the day of the accident made it very slippy, which no doubt was the cause of his falling.

Christian Niemetz, a Pole, unemployed, was killed by falling down a shaft at Morea colliery on March 5th. He had gone down the shaft with some of the workmen in the morning to look for work and got off the cage at the seven foot level, which is about one hundred feet from the bottom of the shaft. While standing there he opened the gate and looked down the shaft and was warned by the footman to keep away. After he had closed the gate the footman went through the traveling way to the other side of the shaft and a short time afterwards missing Niemetz found that he had fallen down the shaft. He was found at the bottom in a dying condition.

Charles Harris, an English miner, was burned by an explosion of gas at the Lytle colliery on March 7th and died from the effects on the 8th. He and his partner, Daniel States, were working in No. 18 breast, Primrose vein, third lift, west gangway. During the forenoon they drilled a hole and charged it with dynamite with fuse attached. Harris went down the man-way to a blind heading and States lighted the fuse with his pipe. As the fuse caught, the gas exploded burning States severely and also burned Harris very severely from the effects of which he died. The fire boss reported the breast clear in the morning, and States said he did not know there was any gas present when he lighted the fuse. Evidently he had not made any examination.

John W. Jones, Welsh, and an old experienced miner, was killed at York Farm colliery on March 10th by a fall of slate. He was working in breast No. 41, Selkirk vein, west third lift gangway, the vein being three feet ten inches thick, with a bad clod and slate top. He had been at face of breast only about five minutes and was working close to top of inside schute, the last prop of which was about five feet from the face, when a large piece of rotten slate fell from the face and crushed him against the rib, injuring him so severely that he died before he could be taken out. The breast was carefully timbered, but the roof was very treacherous, being full of joints and slips.

Louis Leinheiser, an American miner, was fatally injured by falling down the man-way of breast in which he worked at the Albright colliery, on March 23d and died April 2d. He and his partner, Matthew Fleming, were working in No. 3 breast, Black Mine vein, east third life, No. 1 dip gangway. The breast was up two hundred and four feet above the main heading and had a pitch of 57 degrees, the vein being about ten feet thick, and it was gaseous. There was no person working outside of them, nor in the two next breasts inside of where they were at work. About one o'clock in the afternoon they fired a shot at the face of the breast which liberated a large quantity of gas. As this gas did not interfere with other persons they waited for it to clear away and did not notify the colliery officials. They then went up the return air man-way, to upper heading which was a few yards from the face. Fleming remained in the heading and Leinheiser went up the man-way to put some loose coal down. Fleming heard the stuff rushing past him but as it was very dusty he did not know that Leinheiser had gone down with the rush. He then went up, and thinking that Leinheiser had been overcome by the gas went up into the gas to look for him, leaving his safety lamp below him. He, Fleming, was affected by the gas and fell down the man-way, but was not seriously injured; he called for help to look for his "butty" and Leinheiser was found in the schute at the bottom of the breast, nearly covered with loose coal and in an unconscious condition, in which state he remained until he died.

Matthew Fleming and Edward Burns, miners, were killed at the Albright colliery by an outburst of gas on April 27th. Fleming had been injured by falling down the man-way of No. 3 breast on March 23d as mentioned in foregoing accident. After recovering he went to work again in No. 3 breast with Edward Burns as a partner. They finished this breast and went to work in the next breast outside, No. 2, to work it up to its destination, and had driven it up a few yards. On the afternoon of April 27th one of the machinists having had occasion to go into the return airway from the east gangway found that the air current was heavily charged with explosive gas. The officials were at once notified, and the breast men inside called down. Not getting any response from Fleming and Burns, an examination of their breasts was made when it was found that a large quantity of coal had run down, blocking the lower end of both man-ways. By going to the inside top heading it was found also that the upper end of inside man-way was full of gas and the men were not to be found. The Inspector was notified and was soon at the colliery. The whole current of air was forced to the upper heading which soon backed the gas up to near the face, when it

was found that the breast had run and was completely blocked by loose coal, and that the men were either buried in the coal or lying in the outer man-way which was still full of gas and was inaccessible. We then began to draw the coal from the top and found the body of Fleming, about two o'clock on the morning of the 28th, both having been caught by the outburst and buried in the loose coal at the face and smothered by the gas, as neither of the bodies showed any sign of injury. The air current was strong, yet the quantity of gas liberated by the outburst kept the return current heavily charged for some time after the bodies had been recovered.

Charles E. Neal, an engineer, was fatally injured at the York Farm colliery, on April 29th and died about 7 o'clock on the morning of the 30th. He was employed as the hoisting engineer at the slope, and at the time of the accident had been hoisting from the first lift. The empty cars going down had not pulled the rope low enough to hook on to the loaded cars, on account of the pitch being light from the surface to this lift. The loaded cars had been landed over the knuckle, which caused the slack rope to lay under and on the drum. Neal was engaged in adjusting this slack and putting it in its place on the drum, when the bottom men not knowing of this, hitched a mule to the empty cars to pull the rope down. The rope went down suddenly and with much force, and one of the rounds caught his body between the drum, injuring him very severely and causing his death.

William Eagan, a blacksmith, was severely injured at the Richardson colliery April 30th from the effects of which he died May 9th. He had gone down the slope to shoe one of the mules and while so doing the mule kicked and squeezed him against the stall fatally injuring him.

Adam Zimmerman, a timber cutter was fatally injured at the Middle Creek Shaft colliery May 5th by a log falling on him on the timber bank outside, from the effects of which he died May 6th.

Matthew Brennan, a driver, was severely injured at the Eagle Hill colliery on May 6th and died from the effects of his injury on May 17th. He was engaged as a driver at the bottom of the slope and had "side-bitched" two empty cars into the back switch, while he was taking some coupling chains from the front end of the empty cars, another driver ran three loaded cars into the back switch, which bumped against the empty ones and caught Brennan between the end of the empty car and the face of the back switch, causing injuries from which he died.

Lewis Lant, a miner, was injured at the Thomaston colliery on May 19th, and died from the effects on May 27th. He was engaged in sinking a new slope on the Lelar vein, and at the time of the

accident was drilling a hole in front of the track and the wagon was standing about two feet above him being loaded. When the car was about three-quarters full, the contractor saw the wagon moving and called to Lant to get out of the way, but he was not quick enough and was caught between the wagon and the face of the slope, receiving injuries that caused his death. The brake on the drum is a powerful first-class brake, and the engineer claimed that the lever was in the usual notch, yet I am of the opinion that the brake was not properly tightened or the car would not have moved; and in such cases it is not a proper method to work below a car without taking some precautions other than depending on the engine or brake.

Charles Wasel, a laborer working on stripping, was killed at the Morea colliery on the 11th of June. No. 29 breast in West Mammoth north dip gangway had been worked close to surface, leaving the top coal up. The stripping gang was working over this breast taking the rock off. While thus engaged a small hole fell through in the top coal taking Wasel down with it into the breast, where he was found covered by coal. He died while the men were getting him out.

John Kiratzko, a car loader, was killed at the Morea colliery on June 22d. He had loaded two cars which were standing about six feet apart. Having a bar under the wheel of the last car to hold it, and wishing to run the two cars together he pulled the bar away and started the car and then ran between them to cross to the other side of the track. On the way, and while between the cars, he stopped to arrange the chain on the brake spindle. His helper called to him to get out of the way as the cars were almost together, but before he could get away he was caught between the bumpers and injured so severely that he died shortly afterward.

Simon Diegitis, a repairman, was injured at the Eagle Hill colliery on the night of June 22d and died at the Miner's Hospital, at Ashland, on August 11th. He was working at timbering on the gangway at night, and had put a new leg about six inches from an old set of timber. He put a block in this space to steady the new leg, and while he was in a stooping position the block fell and struck him on the head. He worked for two nights after, and then went to the hospital where it was found his skull had been fractured from which he died.

John Gobitas, miner, was killed at the Richardson colliery on July 1st. He was working in the north dip, West Billy vein gangway, third lift. The No. 21 schute which was being driven was about forty-five feet back from the face of the gangway. He was cleaning some coal off the track under the schute to let the gangway

car out, when the platform on which there was about seven wagons of coal broke down and he was covered by the loose coal and smothered before his laborers could get him out.

Jacob Swartz, a schute boss, was injured June 25th at the Richardson colliery and died July 15th from the effects. He was working in the hoisting slope, assisting to take out some column pipe, his partner being about seven feet above him. While thus engaged, a hammer which was on the timber above, fell and struck Schwartz on the head. He continued working until July 9th when he was compelled to remain at home, where he died July 15th.

John Harrison, a driver, was killed at the Eagle Hill colliery on August 12th. He was employed as a driver at the bottom of the slope and commenced work only the day before. In pulling the empty cars into the back switch at the bottom of the fifth lift, he hitched the mule to the back end of the second car, the front end of which was filled with short timber. The light end of the car swung off the track and caught his head between the end of car and timber which was two feet nine inches away when the car stood on the track.

Mich. Lundy, a miner, was instantly killed at the Pine Forest colliery on August 13th. He was working in No. 1 breast, first lift slope, West Buck Mountain vein gangway, and was undermining, having about three and one half feet of a bench of coal above him. A piece of the top coal which weighed nearly two tons fell on him, killing him instantly.

John Leonard, a driver, was killed at the Kaska William colliery, on August 17th. He was driving in the slope east top bench, Mammoth vein gangway, and had pulled the schute wagon out some distance into the gangway and then went back for the gangway wagon. While on the way out, he fell from the front end of the wagon and was so severely injured that he died shortly after being taken home.

Paul Slump, a miner, was killed at the Albright colliery, on August 18th. He was working in No. 11 breast east No. 1 dip gangway, Black Mine vein, and on the day in question was working alone, his partner not being at work. There was a heading to No. 10 breast near the face of both breasts. About three o'clock in the afternoon Slump told the men in No. 10 breast to let him know when they were going out and he would go out with them. Shortly after this, the men in No. 10 breast heard a rush of coal in Slump's breast and some gas passed through the heading, which caused them to retreat. They went to look for Slump but for some time could not find him. After loading three cars out of the schute at the bottom of the breast his body was found. He had been working

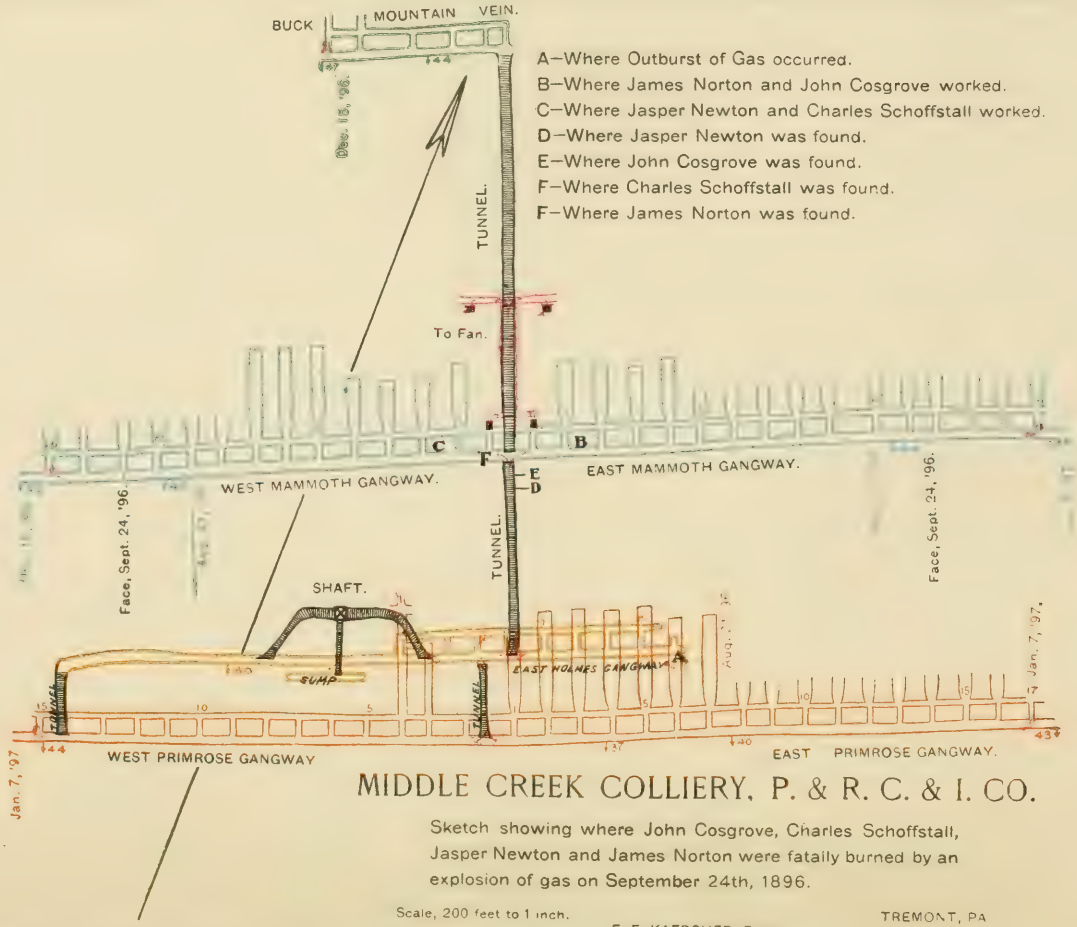
at the top of the outside man-way which was lower than the inside one, and the rush of coal had forced him down the man-way a distance of about forty yards, and buried him in the coal in the schute.

John Ryon, a miner, was fatally injured at the Otto colliery, on August 29th, and died shortly after being taken home. He was working in No. 9 breast, West White Ash gangway, fifth lift, the vein being nine feet thick on pitch of 36 degrees. The top slate was bad, and four rows of props were put under it in the width of breast, which was twenty-one feet. He was putting coal into the schute about twenty feet back from the face, when a piece of slate swung one of the props out. The slate struck him on the head and injured him so severely that he died the same day.

Henry Hirsh, ashman, was severely injured at the St. Clair colliery on September 3d, and died at the Miner's Hospital, at Ashland, September 9th. Part of his duty was to oil the fan that ventilated the drift workings. While so doing, his sleeve was caught by a stud bolt head that was in a collar on the fan shaft outside, of the pedestal, and he was revolved around the shaft several times when he fell between the walls, a distance of about twelve feet where he lay for some time before being found. His limbs and body were severely bruised and one of his ankles was broken.

Peter Boran, a miner, was killed at the Eagle Hill colliery on September 21st. He was engaged in robbing the pillars in the west top bench Mammoth vein gangway, fourth lift. They had driven a schute from the gangway to first heading through the stump, and were blasting coal above the heading. Boran went into the schute below the heading to start some coal down, and while so doing a piece of coal from an overhanging wing, fell on him killing him instantly.

On the evening of September 24th a very heavy outburst of gas occurred at the Middle Creek Shaft colliery which was followed by an explosion severely burning John Cosgrove, Jasper Newton, Charles Schoffstall and James Norton, who all subsequently died from the result of their injuries. Edward Dunmoyer was also severely injured by the concussion caused by the explosion. The day shift men had quit work, and the night shift which consisted of thirteen men who were working at the faces of the different gangways, and the four above named men were working in the Mammoth vein driving schutes in the stumps between the No. 1 and 2 and No. 2 and 3 schutes on each side of the tunnel for the purpose of driving an airway parallel to the gangway in the bottom bench of the vein. They had just started to work, Fire Boss Charles Maurer being in charge of the night shift. As this is a very gaseous colliery locked



MIDDLE CREEK COLLIERY, P. & R. C. & I. CO.

Sketch showing where John Cosgrove, Charles Schoffstall, Jasper Newton and James Norton were fatally burned by an explosion of gas on September 24th, 1896.

Scale, 200 feet to 1 inch.

E. E. KAERCHER, Engr

TREMONT, PA

safety lamps were used exclusively, and dynamite was fired by a battery used for blasting, shots only being permitted to be fired under the supervision of the fire boss after he has made a careful examination of the surrounding places. The East Holmes vein gangway in which the outbursts occurred was being worked only by night on account of its liability to liberate large quantities of gas. David Bowers who was working in this gangway had charged a breaking-in hole at the face, and called on the fire boss for permission to fire the shot. The gangway face was in, 256 feet from the tunnel leading to the Mammoth and Buck Mountain veins, and the blasting battery was 140 feet back from the face of the gangway. The fire boss before granting permission to fire the shot made an examination of the schutes, headings and breasts in this gangway and finding them all clear, went to the battery where the men were waiting and gave the order to fire. As soon as the shot was fired, a loud hissing noise was heard at the face of the gangway, and the men started to run out. The air current going into the gangway had a velocity of 150 feet per minute, but before they could get out of the tunnel the gas had backed out against this current and was going into the tunnel to the Mammoth and Buck Mountain veins which was a separate intake for those veins. The current in this tunnel had a velocity of 340 feet per minute and was so heavily charged with explosive gas that the fire boss could not get in to warn the men inside. The gas also backed out to the tunnel leading to the Primrose vein, the velocity between the tunnels being 350 feet per minute, and it was also passing into the Primrose vein which was ventilated by a separate split. While the fire boss was trying to get into the tunnels to warn the men inside, Bowers went up the shaft and notified the inside foreman, who had not left the colliery. They started at once for the head of the shaft having but a short distance to go. When they got about half way, the explosion occurred which sent the dust high in the air above the top of the shaft. After the explosion, Jasper Newton was found in the tunnel about 40 feet outside of the Mammoth vein; John Cosgrove was found about 20 feet outside of the Mammoth; Charles Schoffstall and James Norton were found about 20 feet from the tunnel in the West Mammoth gangway, near where they had been working, all severely burned. The Mammoth vein gangways and the schutes were badly wrecked, many sets of gangway timber being blown out and the gangways closed in several places. The brattice in the tunnel between the Mammoth and Buck Mountain veins was broken into small pieces and blown clear out of the tunnel. Edward Dunmoyer was working at the face of the East Mammoth gangway, which was about 600 hundred feet from the tunnel and his arm and shoulder

were broken by the concussion caused by the explosion. The men working in the Mammoth gangways made their way out through the headings all uninjured except Dunmoyer, and they had a narrow escape from suffocation by the after-damp and gas which was rapidly filling the places owing to the batteries having been all blown out. The gas in the East Holmes vein did not explode on account of its being in too pure a state, and no damage was done in that gangway by the explosion, but the violence of the outburst had forced out the seven inside sets of timber and had closed the gangway for thirty-five feet from the face with coal pulverized into fine dirt. Although many sudden outbursts of gas of a similar character have occurred in this district, I believe this to be the most forcible one met with, and while every precaution was taken to guard against accident and prevent loss of life, it was not expected that such a large quantity would be liberated at one time as to completely fill the return airways and back the strong currents of air long enough to carry the gas into the other air splits in such a large quantity. A careful investigation was made after the occurrence to determine its cause. The safety lamps were found intact, the gauze of none of them having been broken, so no doubt the explosion was caused by some of the men hurrying out against the strong current which forced the flame through the gauze and ignited the exterior gas.

Joseph Donnely, a door-tender, was killed at the William colliery on October 5th by a concussion caused by an explosion of gas. Abram Williams, a miner, and James Brown, a laborer, were working in No. 10 breast, west second lift gangway, taking a skip off the inside pillar and were nearly up to the upper heading through the pillar to the No. 11 breast. This heading was a few yards below the face of No. 10 breast and a brattice from the heading conducted the air to the face of the breast. The breasts inside to No. 15 were all finished and a hole had been driven from the face of No. 11 to the No. 1 level gangway above, in which a check or regulator had been placed to cause some of the air to pass out through heading of the second lift breasts to keep them clear. The face of No. 1 gangway was about 60 feet inside of this hole from No. 11 breast from which the air was conducted to the face of the gangway by a brattice. Richard and Edward Reese were working at the face of the gangway, Joseph Donnely was about 50 feet outside of the hole on the first lift gangway. About four o'clock in the afternoon James Brown went up the No. 10 breast a few feet above where they were working to gather some tamping, when his naked lamp ignited some gas that had collected, causing a heavy explosion. The flame did not burn him and he and his partner escaped uninjured. Richard and Edward Reese, who were working in the gangway

above, were burned, and Joseph Donnelly, who was also on the lift above, was killed by the concussion which blew the brattice, and all the doors down on the upper lift. The inside foreman testified that he had crossed the face of No. 10 breast about noon and the fire boss also testified that he had been there later, and both had found it clear. The air current when traveling in its proper course and being conducted to the face of the workings, was ample to keep them clear of gas, but when many doors are used to conduct the ventilation, some of them are likely to be neglected at times and allowed to stand open longer than is necessary, and should a door or doors be left open for a few minutes only, enough gas would collect so that when the current which was fairly strong was turned into its proper course, it would carry the gas out along the return outside and be ignited and thus cause an explosion. Gas would also collect in the faces of the working places as the men advanced with their work if the brattice was not kept up and properly attended to; besides the danger of large quantities of gas being liberated by shots and being carried by the current to other places in its return course where men were working.

Fearing accidents from these causes, at a previous visit to the colliery I directed that safety lamps only should be used. This was not complied with up to the time of the accident, and I am sorry to say it was opposed by many of the workmen for whose benefit it was intended. I am satisfied that the gas which caused this accident had collected during an interruption of the air current, and was brought on to the naked lamp of Brown when the current was restored and may have been carried to the lights used by the Reeses at the same time. Since this accident safety lamps only are allowed to be used.

Andro Andro, a miner, was killed at the Williams colliery on October 16th. He was working in No. 25 breast, east second lift, and had driven the second heading out to No. 24 breast. After holing it he went to work at the No. 24 end to enlarge it and had just fired a shot. On returning, a large piece of coal fell from the upper corner which struck him and injured him so severely that he died in a few minutes.

Anthony Seminites, a miner, was killed at the Silver Creek Shaft colliery on October 20th. He was working in breast No. 28, west top bench gangway, on shaft level, when he was struck on the head by a piece of sulphur stone that fell from the roof about twenty-five feet back from the face of the breast, which killed him instantly. The piece that fell was three feet by two and one half by five inches thick at the thickest place. It fell from a pot hole, but the surrounding roof was very good.

John Novitsky, a laborer, was instantly killed at the Albright colliery on October 21st by concussion caused by an explosion of gas. He was working with Ellwood Schoffstall, a miner, in the West Tunnel vein gangway, third lift. Schoffstall fired a shot of dynamite with a battery in the coal at the face of the gangway. Novitsky stood with him near the battery which was about 100 feet back from the face. When the shot was fired the gas exploded and Novitsky was blown some fifty feet away and instantly killed. Schoffstall was also severely injured, but neither of them were burned. There was no doubt but that considerable gas was present when the shot was fired, and Schoffstall should not have fired the shot as he was urged not to do so by some of the other men.

Martin Babbish, a carpenter, was killed at Lytle colliery on October 28th, about 220 feet below the surface. In the hoisting slope there is a light grade over which four top pulleys are placed on each track to keep the rope from rubbing the collars. Part of his duty was to go down to these pulleys at noon to examine them and repair them if necessary. He went down on the east gunboat and getting off, rang the boat to the bottom and sat between the tracks. As the west boat was approaching on its way up, his partner called to him to look out as the west boat was coming up. Babbish inadvertently moved in the wrong direction and was caught by the boat which ran over both of his legs, crushing them so severely as to render amputation necessary. He died under the operation about 6 o'clock the same evening.

John Kries, a miner, was severely injured at the Eagle Hill colliery on October 30th, by a piece of slate falling on him, from the effects of which he died on the 31st. He was working in No. 1 breast, seven foot vein, west gangway, fifth lift. The vein is about nine feet thick and has a bad top which breaks as the coal is taken out. While he was making a foot hole for a "juggler," a large piece of slate fell in the breast which after striking the bottom, rolled over and caught him.

John Halich, a miner, was killed at the West Brookside colliery on November 5th by coal flying from a shot which blew through the pillar. He was working in No. 12 breast, No. 4 vein, No. 2 slope, third lift gangway. The men in No. 13 breast were firing a shot, and his partner told him to go down until the shot was fired as he expected it to blow through. He refused to leave the face of the breast, and called his butty a coward and told him to stay at his work as the pillar was too thick, but the shot blew through and some of the coal struck Malich injuring him so severely that he died while being taken out.

John Perlech, a miner, was burned by an explosion of gas at the Silver Creek Shaft colliery on November 9th, and died from the

effects at the Miners' Hospital at Ashland on the 17th of November. He was working with Mich. Dunches, in breast No. 16 West Bottom bench plane level. They were working with safety lamps, but had not encountered any gas in the breast for three weeks. As they were about quitting work for the day, they fired three shots. While they were changing their shirts the loader came to the schute to load a car. As they had no coal in the schute ready to load, Perlech seized a naked lamp and went up the schute to start some down, when he fired the gas, which burned both himself and Dunches.

Elias Houtz, a miner, was instantly killed at Lincoln colliery on November 11th by a large piece of rock falling on him. He was working at skipping pillars on the west slant above the No. 1 level, No. 1 vein slope, where the pitch is light. The piece of rock was overhanging the pillar and had a small seam of sand above it, which made it dangerous. The foreman had ordered him to pull it down, but instead of doing so, he drilled a hole in the pillar under it, expecting to bring it down in that way. When the shot was fired, his two laborers went farther back than he did and were filling their lamps with oil. Houtz hurried back after the shot went off. The laborers heard the rock fall about the time he got back, and on getting to the place found that it had fallen and killed him.

John McGurk, was killed at the Lytle colliery on November 24th. He was engaged in the hoisting slope to watch the pulleys on a sharp knuckle near the old McDonald level. He was expected to stand at this level from where he could see the pulleys, and if he saw anything wrong with them he had instructions to stop the hoisting until he made the necessary repairs. At the time of the accident he had gone a few feet below the level and was chopping at a groove in a pulley while the gunboats were going up and down. The pumpman who was on the same level and knowing he was in a dangerous place, called to him several times to come up, then went back to his pump. A short time afterwards the lifeless body of McGurk was found in the dump schute at the breaker. He had fallen down the slope, and in some was was caught in the gunboat and dumped in the breaker.

John Biko was burned by an explosion of gas at the Silver Creek Shaft colliery on November 27th and died from the effects on the 28th. He was working in breast No. 22 west top bench gangway shaft level with John Fitzgura as a partner. The breast was finished, and all that remained to be done was to put a prop in a heading near the face. The fire boss reported their place clear that morning when he was there, and his mark was found both at face of the breast and in the heading. They had been using safety lamps, but on that morning they started up with naked lights carrying a prop with them. When they got up into the top heading they

fired some gas that had collected after the fire boss had been there, which burned them both. There was some doubt as to the correctness of the fire boss's report in this case that he had been in the place before the man went in. After a thorough investigation of the conditions and surroundings I was satisfied that it was possible for the gas to have collected after he had made his examination, and the men who were burned had violated the instructions given them in using naked lights.

John Gleason, a slate picker, was fatally injured at the Eagle Hill colliery on December 11th and died the same night. He was working as a slate picker in the breaker and was sent by the schute boss to start the coal in the schute leading to a set of monkey rolls under the front of the breaker. In order to get to the place where the coal was stopped he crossed over the top of the roller wheels which previously had been covered by plank, but at this time one of the planks had been removed, leaving only one plank covering the wheels, which directly over them had been cut down to about four inches in width in order to get at the pedestals. He slipped from this narrow place and one of his legs was caught by the rapidly revolving wheels and crushed so badly that death ensued. I made an examination of this particular machinery not long before the accident in company with the foreman, and found it securely guarded. Subsequently this covering had been removed and had not been replaced, and as it was in an out of the way place, might have been in this condition unobserved for several days, which shows the necessity of a daily inspection of all the machinery about a breaker.

Peter Lynch, a slate picker, was fatally injured at the Phoenix Park No. 3 colliery on December 23d and died the same night. He was playing in the breaker while it was stopped at noon and ran rapidly down one side while another boy who had started with him ran down the other. When the other boy reached the ground, he found Peter lying in an unconscious condition in which states he remained until he died, his skull having been fractured. He had fallen from a platform to the ground a distance of about 19 feet. The platform from which he fell had a railing around it.

Charles Poh, a miner, was killed at the Lehigh Coal and Navigation Company's No. 11 colliery on December 23d by falling down a breast manway a distance of about 140 feet, on an average dip of about 80 degrees. He had lighted a shot at the face of his breast near the top of the outside manway, while his partner had lighted two shots near the inside of the breast. Poh retreated down the outside manway to the upper heading which was about 45 feet from the face of the breast, while his butty had gone down the inside manway to a heading about 30 feet below. After the shots had been

fired, his partner went up and dressed the loose coal from his shots and then waited awhile for Poh to come up. Not hearing anything from him he went down and found that the starter had found his body at the bottom of the manway. The top of the manway was covered to prevent any coal from the shots going into it, and he must have either slipped while doing down before the shots exploded, or while he was returning.

On the 15th of September I received notice that John Devers, a repairman had been found dead on that day in one of the Stump headings at the Phoenix Park No. 3 colliery, fifth lift, East Diamond vein gangway. The gangway face was then about fifty feet inside of the No. 74 schute, the inside breast working was No. 66, the schutes and headings being driven only between No. 66 and the face of the gangway with plank batteries in each schute to conduct the air to the inside schutes. Joseph Spanley and partner were putting a door outside of the No. 74 schute from which the air would be conducted in pipes to the face of the gangway. John Devers and his partner, Hugh Brady, were working at putting a plank schute from the gangway to the air battery in the No. 69 schute to get it ready for loading the coal when the breast was started. Their work was all below the air battery, except cutting a hole through the battery for the coal to come through. Devers cut this hole out early in the forenoon, and went in to where Spanley was working and got a piece of canvass which he placed over the opening to prevent the loss of air. Later in the forenoon the inside foreman and fire boss passed that way and saw him and Brady at their work. This was the last time he was seen by any person except Brady, until his dead body was found up in the heading in the afternoon. A thorough investigation was made by the deputy coroner, Dr. B. F. Guldin, his jury and myself. The deputy coroner and jury went into the mine and made an examination of the place and surroundings where the body was found. At the inquest Brady testified that Devers and himself had sat down to eat a piece, and that Devers had only taken a few mouthfuls and had closed his dinner can and had hung it up and taken a safety lamp and gone up into the schute above the battery. Brady having finished his dinner instead of looking for Devers wandered about the gangway.

Joseph Spanley testified that he had not seen Devers after he had been in to where he was working, to get the piece of canvas, but that Brady came in about noon and was loitering about when Spanley asked him why he was not at work and where was his butty. Brady said that he was taking a nap. Later in the afternoon Brady again went into where Spanley was working when he asked again where his butty was, to which Brady replied he was still snoozing. Spanley thought this was something unusual for Devers, and shortly af

terwards having finished the door he went out to work at No. 68 schute. Passing No. 69 he found Brady sitting in the schute and asked him again where his butty was and if he had not seen him since. Brady said he had not, and that he had gone up there, pointing up the schute. Spanley told him to go up and look for him, which he at first refused to do, giving as his reason that there might be some gas up there, however Spanley prevailed on him to go up while he went up the No. 68 schute. When Brady got to the heading he called out to Spanley, "Here he is, and he is dead." The dead body of Devers was found in the heading between Nos. 69 and 70 schutes, with his feet out toward No. 69 and about ten feet from the schute. His right hand and part of his head were blown off. His safety lamp had been opened and the top with the gauze attached, lay on one side of the body, while the bottom of the lamp lay on the other side. Both parts of the lamp were in good condition. The body was cold, showing that he had been dead for some time. Brain matter and small pieces of flesh were scattered about the floor and timber of the heading, indicating that dynamite had been fired on his head held in place by the hand, and that the body had been in a reclining position when the dynamite was fired. There was no damage done to the heading, not a lagging having been disturbed. There was no dynamite used by anyone except by the gangway, and schute and heading men. The repairmen had no occasion to use any, and none was issued to them. One of the schute men claimed that a stick of dynamite had been taken from their box on that day by some person unknown. It was a question to determine whether the dynamite had been fired by himself or whether he had met with foul play at the hands of another, who had used the dynamite to cover the crime. The actions of Brady during the day were strange, but the investigation showed that he was not a fit man to be employed in a mine, having by reason of an injury to his head years before, been so affected that he could not remember anything from one minute to another. The jury rendered a verdict that John Devers was killed by an explosion of dynamite; that his death was not the result of accident, but either by his own hand, or at the hands of some person or persons unknown to the jury.

About 4,500 feet west of the Lehigh Coal and Navigation Company's No. 11 shaft there is an air shaft that was driven from the water level to the surface over the pillar between Nos. 6 and 7 breasts in the second section of the shaft level, West Mammoth vein gangway, through which pillar a similar shaft had been driven to connect with the one above to the surface. The water level workings had been robbed on both sides of this air shaft some years since and the surface had fallen in, making deep and extensive breaches on account of the vein being nearly vertical. As these breaches had not

been disturbed for many years, many berry and other bushes had grown in them. On the 28th of July two workmen were engaged at timbering the air shaft about thirty feet below the surface when two men whom they did not know came to the top of the shaft and called down to them. A few minutes after the men had left the men in the shaft heard a heavy fall in the old workings and went immediately to the surface. On arriving there they found two buckets containing some berries, but the men could not be found. They found some foot prints leading to the old breach east of the shaft, also that about 150 feet east of the shaft there was a fresh break in the breach that had gone down making a large hole over 100 feet in depth. Concluding that the men had left their large buckets above and had gone down the breach with smaller buckets to gather berries about the time the fall occurred, they made the facts known and made inquiry to find if any persons were missing. Toward evening it was found that Fred. Losch, of Coaldale, aged 21 years, and married, and John Aiken, Jr., of Gearytown, aged 17 years, had gone on the mountain together that morning to pick berries and had not returned. The buckets were recognized as the ones they had taken with them. In the meantime the bottom slate had slid away and had filled the fresh hole for some distance up. The colliery was idle on that day but when working, men were engaged in skipping the pillars directly under the point where the fall had occurred and for some days after the fall it was unsafe to go near the place as there was a large empty space between the shaft level and the water level, with only a few feet of pillar between, which was working and liable to break through at any time. The colliery officials were disposed to spare no reasonable expense to recover the bodies and after the place had settled some, men were put to work on the water level gangway but after several attempts had to quit work on account of the risk of losing more lives. An attempt was then made to drive a hole through the chain pillar above the No. 5 breast which was full, to the water level gangway to try to recover the bodies in that way, but as the pillar between this breast and No. 6 had been skipped for about 10 feet up, this work caused the pillar to run and enlarged the breach in the surface. The breasts outside of No. 5 were empty, but the pillars also ran and partly filled them. Owing to the heavy pitch and the looseness of the ground the work of recovery had to be abandoned after much dangerous work had been done.

IMPROVEMENTS MADE AT COLLIERIES DURING 1896.

The Chamberlain colliery was stopped in December, 1895, and remained idle until April, 1896, when it was purchased by the Marion Coal Company of which Dr. J. N. Rice, of Scranton, Pennsylvania, is president, and the name of the colliery was changed to the Marion colliery.

Since the new company has taken charge, the following improvements have been made: In fourth or new lift of Lewis vein slope the tunnel has been continued north, cutting the Little Tracy vein about three feet thick on which an air hole has been driven to the old level above, in line with the Little Tracy vein slope. A tunnel is also being driven from the Little Tracy to the Big Tracy vein and is now in 86 feet. Preparations are being made to sink a trial slope in the Lewis vein in line of this tunnel.

On the third or old lift a return air tunnel has been driven on the level of the headings from the Little Tracy to the Big Tracy vein. A tunnel is now being driven on the old lift north from the Big Tracy to the Diamond vein.

East Ridge Colliery.

Gangways have been turned on the Billy or Skidmore vein slope at depth of 208 feet below the "Hill" tunnel water level gangway. A twelve foot diameter fan has been erected to ventilate the slope and No. 2 or Hill drift water level workings.

Lytle Colliery.

A tunnel has been driven on the third lift, starting between No. 19 and 20 breasts in the West Primrose gangway to the Holmes vein, which was not in very good condition, but is likely to be improved; length of tunnel from Primrose to Holmes vein, 77 feet. The tunnel was also continued 57 feet farther to the four foot vein which at this point is thin and in poor condition.

The water in the old Dolbin colliery workings was successfully tapped on the 9th of November. Two narrow holes were driven from the fourth lift West White Ask vein gangway at No. 20 and 21 schutes, having a pillar of about twenty-five feet thick between through which headings were driven at convenient distances apart. No. 21 hole was driven up about three hundred and sixty feet on an average pitch of about sixty degrees when the vein became confused and rolly. A drill hole about fifty-three feet long was then bored through into the water. Before boring through, a pipe with valve attached was secured in the drill hole so that the water could be drawn as the pumps could handle it. A pressure gauge placed on the pipe shortly after the water was tapped, showed a pressure of ninety-eight pounds to the square inch which is equal to a head of water of two hundred and twenty-five feet vertical. An additional hole was drilled through, which at this writing is dry and explosive gas oozes from it, showing that the old workings are no doubt filled with gas, while the gauge on the pipe in the other hole shows pressure enough only to correspond with the vertical heighth of the drill hole.

During the year six tubular boilers of the Vulcan type were added to the steam producing plant, and some of the old cylinder boilers have been taken out.

Albright Colliery.

An airhole was driven from the third lift tunnel in the Salem vein, to the West Salem vein slope level which comes up about four hundred and seventy feet west of the bottom of the Salem vein slope. The tunnel vein gangways were started in the fourth lift and two holes driven in the tunnel vein east gangway at No. 7 and No. 8 schutes to the level of the Salem vein slope. A tunnel was driven about ninety feet west of the bottom of the Salem vein slope to the tunnel vein connecting with the holes driven from below. The length of tunnel is two hundred feet. A sixteen-foot diameter fan has been placed on the Salem vein airhole west of the top of the slope, which is intended to ventilate the overlying veins.

Morea Colliery.

In the shaft, seven-foot vein level, a tunnel was driven on the west side from the north dip to the south dip of the seven-foot vein, one hundred and forty feet long and an air-hole driven to the surface on the south dip which is three hundred and seventy-two feet long. A tunnel was also driven on the east side of the shaft on the same level from the north dip of the seven-foot vein to the north dip of the Buck Mountain vein, one hundred and seventy-eight feet long.

Kaska William Colliery.

In the shaft level tunnel to the Northdale basin a plane seventy-five yards long is being made at No. 19 breast in the west bottom bench gangway to work a counter lift. A plane thirty-five yards long is also being made in the inside slope level, following a small basin westward from New Tunnel bottom bench west gangway. The Old Orchard vein slope which was abandoned many years ago, is being reopened and is now down one hundred and eighty-five feet.

St. Clair Coal Company.

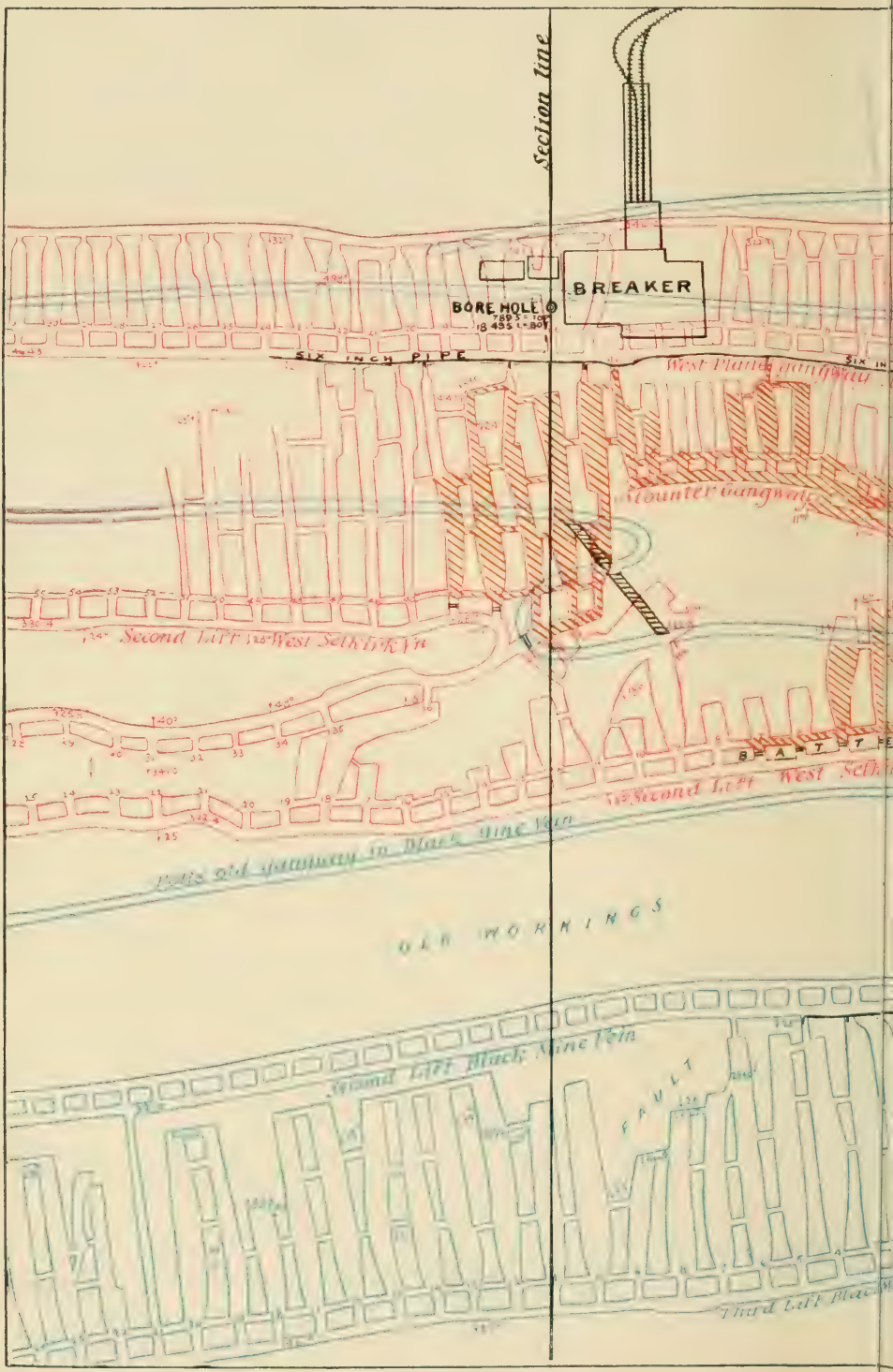
The shaft which was started in 1895 was sunk a depth of one hundred and ninety-two feet, cutting the Buck Mountain vein in very good condition and twelve feet thick near the basin. A sixteen-foot diameter fan was erected on the south compartment of the shaft. A second outlet has been driven to the surface on the south dip. An inside slope is now being sunk westward on dip of basin, which has a dip varying from three to twelve degrees and is now

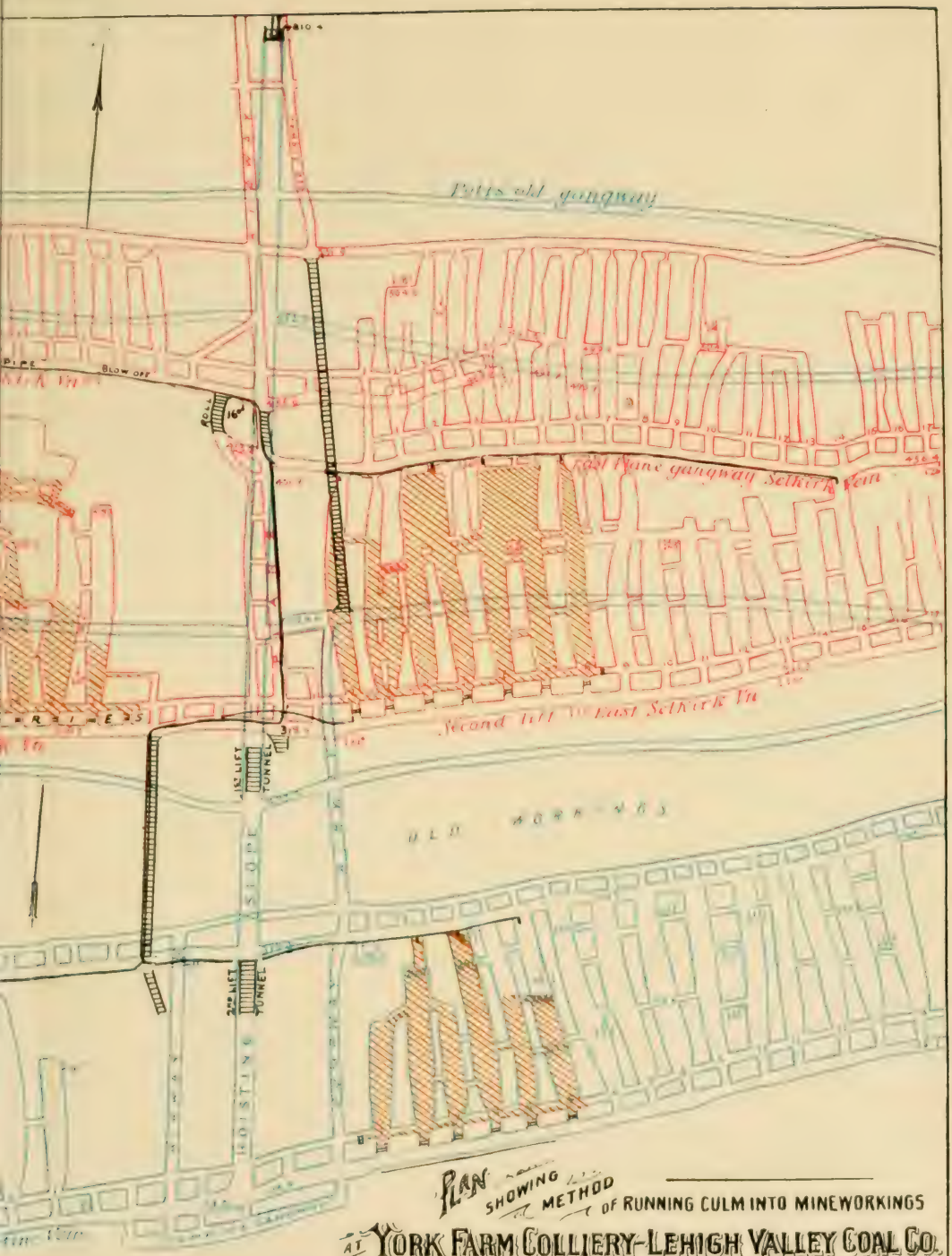
down two hundred and sixty feet below the shaft level gangway. At the Silver Creek slope on Buck Mountain vein a pair of new hoisting engines with fourteen-inch cylinders and sixteen-inch stroke, geared four to one, six new cylinder boilers, thirty-four inches diameter and forty feet long, and a twelve-foot diameter fan have been installed. Gangways were driven some distance, but the vein proving faulty, work was stopped towards the close of the year and the slope is now filling with water. A new sixteen-foot diameter fan driven by direct acting engines with fourteen-inch cylinder and sixteen-inch stroke has been erected near the breaker to ventilate the drift workings. A new dirt plane is being constructed and a pair of engines with twenty-inch cylinders, forty-eight inch stroke geared four to one with a ten-foot drum, have been erected to hoist the dirt. The new breaker commenced operations on May 12th.

Oak Hill Colliery.

The shaft has been sunk two hundred and ten feet deeper below the fourth lift tunnel. At two hundred feet below, the fourth lift tunnels were started north and south. The north tunnel cut the Black Heath vein of the north basin twenty-three feet from the shaft and twelve feet thick of a very good coal, pitching twenty-five degrees. The south tunnel has been driven ninety feet, and will be continued to the Primrose vein. A tunnel is being driven north from the White Ash west gangway on the third lift in line of shaft, which is now five hundred and forty-four feet and has cut a vein of good coal three feet thick which may be the White Ash vein of the north basin. This tunnel will be continued to the Black Heath vein of the north or Black Valley basin. This shaft and tunnels will open up a large field of good coal which when fully developed will make the colliery a large producer.

A pair of new hoisting engines built by the Dickson Company, of Scranton, have been installed for the shaft, having thirty-inch diameter cylinders and a sixty-inch stroke direct acting, with two cast iron conical drums, the small ends ten feet diameter, and the large ends fourteen-feet diameter with grooves for rope to lie in. One three-quarter-inch wire rope is used. The west drum is loose on the shaft and is fitted with a cog cone gearing to arrange drums to hoist from the different levels. A steam brake is used on the fast drum and a hand brake on the loose one. A steam reverse is used which is fitted with a reducing valve to regulate the steam pressure on the reverse cylinder so that it can be worked without sudden jars. A hand reverse has also been arranged, which can be attached and used instead of steam reverse if desirable. These engines are about completed and will be ready for use as soon as the cages are placed in the shaft.


Section line
BREAKER
BORE HOLE
SIX INCH PIPE
West Plane Gangway
Counter Gangway
Second Left to West Selvedge Vein
Second Left West Selv
Old Gangway to Black Vine Vein
OLD WORKINGS
Second Left Black Vine Vein
FAULT
Third Left Blac



PLAN SHOWING METHOD OF RUNNING CULM INTO MINEWORKINGS

AT YORK FARM COLLIERY-LEHIGH VALLEY COAL CO.

W.A. LATHROP GENERAL SUPT

Scale 100 50 0 100

January 1897

A.B. Cochran & Son

Williams Colliery.

A tunnel has been driven two hundred and thirty feet east of the slope from the Spohn to the Tracy vein, length two hundred and sixty-three feet. The vein was about six feet thick, of which about three and one half feet was coal. Two airholes were driven up on this vein six hundred and seventy-seven feet to the anticlinal, then one hole was driven through the strata, two hundred and fifteen feet to the surface. An addition has been made to the breaker, and additional elevators, rolls and shaker screens have been added to the machinery. Two new tubular boilers six feet diameter and eighteen feet long have been added to the steam plant.

At the York Farm colliery, the Lehigh Valley Coal Company has put into operation a system of filling the finished breasts and other abandoned openings of the mines, by running the slush and dirt from the breaker through pipes to the places which they desire to fill.

In September last, a ten-inch diameter hole was drilled vertically from the surface near the western end of the breaker on the level of the railroad tracks. The bottom of the hole, which is about three hundred feet deep, strikes into No. 16 breast of the West Selkirk plane level gangway, about seventy feet up the pitch above the gangway. An eight-inch diameter gas pipe is run down the hole, and to the gangway, where a Y branch is placed, from which six inch diameter gas pipes are taken along the gangway, east and west. The east pipe is laid along the gangway seven hundred and ninety feet to the head of the plane, and continues into the Selkirk plane level east gangway a distance of seven hundred feet. Several pipes and valves are placed along this line to turn the slush into holes driven from the breasts in the lift below.

Between this plane level and the next level below, which is called the second level, a counter gangway had been driven, which extended below the plane west gangway from No. 3 to No. 14 breasts, the breasts and other openings of which have been filled, as shown on the accompanying sketch. Before filling the counter workings the culm ran down the counter schute and filled breasts No. 1 to No. 7 that had been worked from the second lift up to the level of the counter gangway. From the pipe east of the plane, breasts No. 2 to No. 8 in the second lift East Selkirk vein gangway have been filled.

In the West Selkirk plane level gangway, the pipes are laid three hundred feet west from the bottom of the bore hole and the breasts Nos. 10 to 13 front the second lift, have been filled and No. 14 is partly filled. At the top of the Selkirk plane, which is seven hun

dred and ninety feet east of the bottom of the bore hole, a branch pipe is placed from which a pipe is taken down the plane, which is three hundred and fifty feet long to the second life East Selkirk gangway, then it turns west along the gangway, one hundred and fifty feet to the tunnel leading south to the Black Mine vein, which is two hundred and eighty five feet long. At the south end of this tunnel the pipe is branched east and west into the Black Mine vein, second lift gangways. The pipe leading east has been carried across the hoisting slope and into the east gangway to a point over the No. 5 breast from the third lift Black Mine east gangway. Breasts Nos. 1, 2 and 3 on the third lift have been filled from branches from this pipe, and breasts Nos. 4 and 5 are partly filled. This pipe is four hundred and fifty feet long from the branch at the south end of the second lift tunnel. The pipe leading west from the second lift tunnel has been laid three hundred and sixty feet into the West Black Mine gangway and is fitted with branches ready for use; but no culm has been run through it yet.

Six inch diameter gas pipes are used throughout, from the gangway at the bottom of the bore hole, in all three thousand three hundred and ninety feet long. No regular grade for the pipes could be followed, owing to some of the branches being run into the gangways against the grade; but very little trouble has been experienced on this account, as clean water has been run through the pipes after the dirt had been stopped to clean them out and prevent the pipe from clogging when not in use. At the top of the hole a perforated plate with one inch round holes prevents large pieces from going down the pipe. Blow off valves are placed along the line at several places, to allow the air to escape from the pipe; and where necessary, pipes have been bent at as large a radius as possible to avoid sharp angles and reduce friction.

The pitch in the places being filled, varies from 24 to 37 degrees, and as the gangways in which the breasts are being filled are being worked, strong and tight batteries are made in the schutes to keep the culm from getting on the gangways. From these batteries where the breasts are open and it can be done, a wooden box or pipe four inches square perforated with small holes is laid up each breast to carry away the surplus water, above where the culm is settling to avoid having too large a body of water standing in the breasts, the pressure of which might break through and block the gangway below. As some of the finished breasts are closed by falls and are inaccessible, pipes to carry the surplus water away cannot be laid in them; in such places the slush cannot be kept running in steadily, but must be shut off at intervals to prevent too large an accumulation of water and to allow it to filter or drain away through the stuff. In order to regulate the flow and keep

it under control, an electric bell is placed on the surface and similar bells at stations inside, with a code of signals so arranged that the attendant below can communicate with the attendant above and regulate the proportion of dirt and water.

Holes are driven from the breasts to the level above in advance of the ones being filled in order to afford a safe way for retreat for the men working inside should anything give away while the process of filling is going on outside of them. After a place has been filled up and the water drained off, the dirt becomes hard, firm and self-sustaining, so that its weight has not to be carried on the gangway stumps or the batteries in the schutes.

Care must be exercised to keep any water from running into the breasts after they are filled, as a small quantity soaking through will prevent it from solidifying on the pitch. Some difficulties were met with in the beginning, as there generally is in starting anything of this kind until the work becomes systematized and the weak points found and remedied, but these were speedily overcome, and the system is now being worked successfully and there is no question but that the many benefits which are to be derived by filling up the old workings and at the same time getting rid of most of the culm and dirty water which are manifest to all conversant with the mining and preparation of coal, will amply repay for the labor and expense incurred.

Improvements made during the year 1896 by the Philadelphia and Reading Coal and Iron Company:

Brookside Colliery.

The No. 1 or East breaker has been rebuilt and fitted with the most approved machinery, shaker screens being exclusively used instead of circular revolving screens. Operations were commenced on September 1. Eight standard return flue boilers have been installed at the No. 4 slope to take the place of thirty-foot cylinder ones.

In the No. 1 slope, basin slope, a tunnel has been driven from the No. 5 to the No. 4 vein fifty-three and two thirds yards long, cutting the vein in good condition from three to four feet thick. A tunnel from the No. 5 to No. 4 vein has also been started in the No. 4 slope west gangway at No. 25 breast. The No. 4 vein slope overlying the No. 3-No. 5 vein slope, has been sunk to a depth of one thousand seven hundred and thirteen feet. Six lifts have been opened, and the slope is being sunk deeper. An outside plane seven hundred and twenty-five feet long has been made to lower the coal from the head of this slope to the level of the breaker. The East Brookside No. 4 vein tender slope was sunk to a depth of two hundred and forty-three and one-third yards and will be continued to

the basin. A tunnel has been driven four hundred feet east of the hoisting slope from the No. 5 to the No. 4 vein, one hundred and forty feet long, cutting the vein in good condition.

A plane is being made in the lower No. 5 vein west gangway which is now up three hundred and twenty feet and will be four hundred and fifty feet long when completed. A bore hole has been drilled from the surface south of the East Brookside slope in the red shale measures five hundred and eighty-five feet deep, eight inches diameter in which a Downie deep well pump, three and one-half inches diameter, ten-inch stroke, has been placed, which furnishes fifty thousand gallons of fresh water for the colliery every twenty-four hours.

Lincoln Colliery.

Six Standard return flue boilers have been added to the steam plant; four of them taking the place of thirty-foot cylinder boilers. Four standard wooden jigs and four shaker screens have been added to the breaker machinery.

Good Spring Colliery.

The main hoisting slope has been sunk to the second lift, the tender slope having been previously sunk to this lift. A tunnel has been driven three hundred feet west of the hoisting slope on the second lift from the top bench of the Mammoth vein, one hundred and eighty feet long cutting the bottom bench of the Mammoth vein and Skidmore vein in good condition. Three tunnels have been driven from the top bench of the Mammoth to the four foot vein in the second lift, one of them opposite the hoisting slope, seventy feet long, one four hundred and eighty feet east of the slope, thirty-seven and two-thirds yards long, and one three hundred feet west of slope twenty-six and two-thirds yards long, between which, turnouts are made to the bottom of the slope. From the east tunnel the tunnel is being continued to the Holmes vein.

A tunnel has also been driven on the first lift starting at No. 103 breast on the east top bench Mammoth vein gangway, forty-one yards long, cutting the bottom benches of the Mammoth and the Skidmore veins. Two holes have been bored from the surface four hundred and sixty-four feet deep, to the second lift pump room which has been made in the strata between the top bench of the Mammoth and four-foot veins, to carry the steam down to a new duplex pump with a thirty-six-inch steam cylinder, forty-eight inch stroke and twelve-inch water end, which has been placed in position. Four standard return flue boilers have been added to the steam plant, and additional jigs are being placed in the breaker to increase its capacity.

Middle Creek Shaft Colliery.

A new twenty-one-foot diameter fan driven by an engine with sixteen-inch steam cylinder and thirty-inch stroke direct acting has been placed at the top of the Primrose vein slope. The tunnel two hundred and sixty feet east of the bottom of the shaft has been continued to the Buck Mountain vein, a total distance of three hundred and one and two-thirds yards from the Holmes to the Buck Mountain vein. A tunnel has been driven from the Primrose to the Holmes vein, four hundred and thirty feet west of the shaft, thirty-six and one-third yards long. Six standard return flue boilers have been erected to take the place of the thirty-foot cylinder boilers. The new breaker has been fitted with the most approved machinery for the preparation of coal, shaker screens being used throughout, instead of the cylinder revolving screens. Commenced operations on April 27th.

Otto Colliery.

The Primrose slope having previously been sunk from the fourth to the fifth lift, and tunnels having been driven, cutting the Holmes, Black Heath and White Ash veins; the Holmes vein slope which is the main hoisting slope was sunk from the fourth to the fifth lift, three hundred and twelve feet, and they began hoisting coal from the fifth lift on June 1st.

The Primrose vein slope in the "Mud" drift was sunk to the basin, a distance of three hundred and twenty-four feet and gangways turned. A tunnel was driven from the plane level in the White Ash bore hole slope, one hundred and twenty yards to the Swatara basin.

A two hundred and fifty horse power Cahall boiler has been added to the steam generating plant. This is the first of this type of boilers that has been placed in this district, and it is so arranged that it can be fired separately, or can use the waste heat from the cylinder boilers. At present it is using the waste heat from ten of the thirty foot long cylinder boilers, which from tests made, adds about seventy-five per cent. to their capacity. It is giving satisfaction and two more of the same size are being erected. A ten-foot diameter fan has been installed to furnish the blast for the main boiler plant of thirty cylinder boilers. The steam blowers have been done away with.

Phoenix Park No. 3 Colliery.

The slope which is on the Diamond vein has been sunk one hundred and forty-seven yards below the fifth lift to the basin. The sixth lift gangways have been turned one hundred and ten yards below the fifth lift.

Glendower Colliery.

The new Lelar vein pump slope has been completed to the level of the hoisting slope bottom two hundred and forty yards from the surface. A pump room has been made half-way down and another pump room is being made at the bottom. When completed new steam pumps will be placed in position and the old pump slope on Crosby vein will be abandoned.

Thomaston Colliery.

The new slope which is being sunk on the Lelar vein is down two hundred and sixty-one yards from the surface, and thirty-one yards below the present Crosby vein slope level. A tunnel was driven from the north to the south dip of the Daniel vein in the bore hole slope, starting between breasts No. 37 and No. 38, length one hundred and twenty-six feet. Six cylinder boilers thirty feet long and thirty-four inches diameter have been added to the steam plant.

Silver Creek Shaft Colliery.

A new plane, No. 3, has been made, starting at No. 15 breast on the west seven-foot vein gangway on the No. 1 plane level. The plane, is 450 feet long. At the top and in line of plane, a tunnel has been started which will be driven to the top and bottom benches of the Mammoth vein. A pair of new hoisting engines with steam cylinders thirty inches diameter and five foot stroke, direct acting with drum twelve feet nine inches diameter, with steam and hand brake complete, have been installed to hoist the water from the shaft, instead of using pumps. Two boiler plate round tanks having a capacity of one thousand four hundred gallons each, are used in the south compartment of the main hoisting shaft. These tanks have an apartment above the water space for men to get in while being lowered or hoisted. One and three-quarter inch diameter crucible steel wire ropes are used. These engines were built at the company's shops in Pottsville.

Pine Forest Colliery.

The Buck Mountain vein slope was sunk to a depth of two hundred and seventy-nine yards below the water level gangway, and two lifts opened on which gangways are being driven east and west.

The New Wadesville Shaft.

This shaft has reached a depth of five hundred and thirteen feet, having cut through the Orchard, Primrose and Holmes veins in good condition and is still being sunk deeper.

Improvements made by the Lehigh Coal and Navigation Company.

No. 10 Colliery.

A tunnel has been started about four thousand feet west of the slope to cut the south dip of the Mammoth vein in the Greenwood basin.

No. 12 Colliery.

The slope is being made between the second and third lifts in line of hoisting slope, to connect it with the new or third lift. Two holes have been bored from the surface to the second lift pump room, eight inches diameter and 315 feet long. One of them is used to take the steam to the pumps, and the other as an escape for exhaust steam. Two more holes are being drilled from the surface 565 feet deep to the third or new lift pump room for the same purpose, and in order to abandon the steam way in the vein, and so reduce the danger from fire. The tunnel from the second or old lift Primrose vein, west gangway, has been driven across the basin to the "G" vein, north dip, a distance of 1,404 feet and an air-hole has been driven to the surface on the "G" vein. The tunnel is being continued to the north dip of the "F" or Primrose vein. One battery of 500 horse power sterling boilers has been added to the boiler plant.

Mine Fires.

At the rock slope that was sunk in 1895 by the P. & R. C. & I. Co. at Heckschersville between the abandoned West Pine Knot and Anchor collieries to extinguish the fire that has been burning above the water level for several years. The gangway was driven 270 feet east of slope through broken ground finding some burned material but no fire. In April last a hole was driven up near the face of the gangway to the old Paine water level where fire was found. Since that time several holes have been sunk from the surface into the old workings below, in some of which fire was found. These openings and old workings are found to have been slushed with culm and water. The work is being continued and the indications at this time are that there is not much fire left.

At the Thomaston colliery work had been going on for more than a year in the south dip west Daniel gangway without finding any fire. On the third of July last while driving a hole up the pitch along side of one of the old breasts a large quantity of burning coal rushed from above, to the gangway. The gangway was again sealed by batteries at No. 40 breast and return airways closed. Six holes have been drilled from the surface into the old breasts, which have been slushed with culm and water.

The Pottsville Hospital.

This institution, which has nearly completed the second year of its existence, and which is of incalculable benefit to the mining com-

munity of this district, as well as to the railroad and industrial establishments by the good work it has already done and is still doing, is, I think, worthy of some notice. For many years the need of an hospital in this vicinity had been felt by our people, particularly those who were unfortunate enough to be injured in and about the mines or railroads and who were compelled to be taken long distances either by rail or wagon, sometimes over very bad roads and in very inclement weather in order to reach an hospital, where they could receive proper treatment.

The location of this hospital makes it convenient to quite a number of our collieries, and injured persons can be taken to it in many cases more easily and quickly than they can be conveyed to their homes, which fact of itself is of great benefit to the injured, and saves much suffering between the time of receiving the injury and that of having the injuries attended to.

I have known of many cases of severe injury in and about the mines which were at a great distance from an hospital, where the injured ones have lain at home for months without being able to resume their work, and have had finally to go to an institution of this kind where they have been cured, and who would have been saved much suffering and loss of time had there been an hospital accessible at the time of receiving the injury.

For two years prior to the organization of the hospital, Mr. Samuel S. Shippen and his sister, Miss Elizabeth S. Shippen, of Philadelphia, but formerly of Pottsville, had been planning to found an hospital in memory of their father and mother, Mr. John Shippen and his wife, Mrs. Margaret McCall Shippen, who had for more than fifty years been well known and highly respected residents of Pottsville. They, therefore, selected Pottsville as the most suitable place for the proposed hospital, and in order to acquire the necessary information as to the best way to carry out their project, they visited many of the best institutions of the kind in this and other countries, and also studied the plans and ideas upon which such inttitutions were founded and regulated. Fearing that it would be too great an undertaking to inaugurate and carry out the details of by themselves they made known their wishes to found an hospital at Pottsville, to be called the Pottsville Hospital, in memory of their father and mother, to Mr. Guy E. Farquhar, and if such an hospital could be founded they were willing to guarantee thirty thousand dollars to accomhplis it.

Mr. Farquhar consulted at once with Mr. W. L. Sheafer, who had previously taken a great interest in hospital work. These gentlemen then sent out a call to representatives of the various interests and churches of the town.

On the sixteenth of January, 1895, the first meeting was held with the following gentlemen present:

F. G. Yuengling, J. P. Jones, S. H. Kaercher, J. K. Sigfried, B. I. Sheafer, P. A. Roth, Geo. F. Morgan, Lewis Stoffregen, Wm. G. Hoeffer, L. T. Medlar, E. J. Gaynor, Augustus Knecht and Heber S. Thompson, who determined to form a corporation and secure a charter. A subsequent meeting was held on the 22d day of January, 1895, when the charter as prepared was presented and signed by those present, and the above named were elected as managers, together with the following additional gentlemen, viz: Messrs. J. W. Beecher, R. C. Luther, S. B. Briscoe, G. C. Schrink and A. S. Faust.

At a meeting held on the 16th of February, 1895, it was determined to purchase the property known as the Lauer Mansion and two and a half acres of ground adjoining, so that the hospital would have at least three acres of ground.

On the 5th of March, 1895, the court of common pleas of Schuylkill county granted a charter for "The Pottsville Hospital," and on the same day an organization was effected by electing the followning officers.

Mr. Guy E. Farquhar, President.

Mr. W. L. Sheafer, Secretary.

Mr. S. H. Kaercher, Treasurer.

At a subsequent meeting, Mr. A. S. Faust was elected vice president.

On the 25th of April, 1895, the women's auxiliary corps of the Pottsville Hospital was temporarily organized, which at subsequent meetings elected a board of managers and the following permanent officers.

Mrs. S. B. Briscoe, President.

Mrs. J. H. Umbenhem, Vice President.

Mrs. Sarah A. McCool, Secretary.

Miss Manah Garretson, Treasurer.

In the meantime the work of adapting the building selected for the hospital to the purposes for which it was intended, and the building of an addition was being vigorously pushed forward with the result that it was furnished and fully equipped with the most approved appliances. A staff of physicians, surgeons and specialists was organized and a superintendent, nurses and the necessary employes secured, and on the 22d of July, 1895, the hospital was formally opened for the reception of patients and for the inspection of the public, at which time an hospital tea was tendered by the board of managers of the women's auxiliary, which proved a success ful introduction of the hospital.

On the 23d of July, 1895, the first patient was received, and during the first week there were five patients in the hospital, three of them accident cases, thus showing conclusively the necessity of a place where such sufferers could receive prompt and proper attention

Since that time the good work has been steadily going on, and during the year 1896 one hundred and sixty-eight miners and laborers received treatment at the hospital, also a very large number who had been injured on railroads and in industrial establishments, besides a large number from the large and increasing population of Pottsville and surrounding towns and country, among whom there are constantly many sick and suffering people requiring the care and attention that can only be had at such an institution.

It is the desire of the founders, Mr. and Miss Shippen, that the hospital shall be for all, men, women and children, without regard to creed or color, and at their request ample provision has been made for their reception and treatment.

In accomplishing what has already been done, a great deal of hard work has been performed by the officers and board of managers, ably assisted by the ladies of the auxiliary association and the physicians, surgeons and specialists of Pottsville, who have given much valuable time and invaluable assistance to promote and carry on successfully this most useful institution, and they are deserving of the thanks of not only the sufferers, who have been benefitted, but also those of the whole community.

The liberal donation so generously given by the founders has been supplemented by liberal donations and contributions from the people, societies and industrial establishments of this and surrounding towns, assisted also by a small appropriation from the State, and it is to be hoped that sufficient aid will be forthcoming, not only from the community but also that the State will make liberal appropriations to maintain and continue this charity successfully and permanently, as there is no doubt the demands on it will be greater in the future than in the past.

During the year 1896 the number of employes at the mines alone in this district increased nearly seventeen per cent. above the number employed in 1895, and there is no question but that the mining population of the southern half of the Southern Anthracite coal field will continue to increase rapidly, and as this hospital is the only one in this large territory, its needs and benefits cannot be over-estimated.

TABLE No. 1.—Showing location, etc., of collieries in the Eighth Anthracite District, for the year ending December 31, 1896.

Name of Colliery.	Name of Operator.	Location.	Name of Superintendent.	Post Office Address.
West Franklin	Philadelphia and Reading Coal & Iron Co.,	Tremont [illegible]		
Lorberry	Philadelphia and Reading Coal & Iron Co.,	Wadesville		
Good Spring	Philadelphia and Reading Coal & Iron Co.,	Silver Creek		
Middle Creek shaft	Philadelphia and Reading Coal & Iron Co.,	Cumbola		
[illegible]	Philadelphia and Reading Coal & Iron Co.,	[illegible] Clair		
Phoenix Park No. 1	Philadelphia and Reading Coal & Iron Co.,	Glendower	R. [illegible] general superintendent John Yeats,	Pottsville.
Thomaston	Philadelphia and Reading Coal & Iron Co.,	Glen Carbon		
Richardson	Philadelphia and Reading Coal & Iron Co.,	Heckscherville,	[illegible] superintendent	
[illegible]	Philadelphia and Reading Coal & Iron Co.,	Phoenix Park		
Pine Forest	Philadelphia and Reading Coal & Iron Co.,	Branchdale,		
Eagle Hill	Philadelphia and Reading Coal & Iron Co.,	Tremont,		
Silver Creek shaft	Philadelphia and Reading Coal & Iron Co.,	Good Spring		
Wadesville shaft,	Philadelphia and Reading Coal & Iron Co.,	Lorberry		
Kalmia washery	Philadelphia and Reading Coal & Iron Co.,	Tower City,		
L. C. & N. Co. No. 8 colliery	Lehigh Coal and Navigation Company,	Coaldale		Lansford, Carbon Co.
L. C. & N. Co. No. 10 colliery	Lehigh Coal and Navigation Company,	Rahn township	Wm. T. Zehner supt.;	
L. C. & N. Co. No. 11 colliery	Lehigh Coal and Navigation Company,	Rahn township	Ralph Shoch Jr asst. supt.	
L. C. & N. Co. No. 12 colliery	Lehigh Coal and Navigation Company,	Rahn township		
Yost Farm	Lehigh Valley Coal Company	Pottsville	W. A. Lathrop,	Wilkes-Barre.
Parkwood	Lehigh Valley Coal Company,	Blackwood	W. A. Lathrop,	Wilkes-Barre.
Morea	Dodson Coal Company,	Morea	E. E. Bullock	Audenried
Ruska Williams	Dodson Coal Company,	Middleport	E. E. Bullock	Audenried
St. Clair	St. Clair Coal Company,	St. Clair,	W. W. Patterson,	Pottsville
Greenwood	Randall Bros. & Co.,	Tamaqua,	M. A. Gerber,	Tamaqua
East Lehigh	Mitchell & Sheip	Tamaqua,	Joseph Mitchell	Tamaqua
West Lehigh	Dunkleberger & Young	Tamaqua	John Young	Tamaqua
Oak Hall	Lessenring & Co.	Minersville	Walter Lessenring	Minersville.
Lytle	Lytle Coal Company,	Minersville	Aaron Kemmerer	Minersville.
Altamont	Albright Coal Company	Llewellyn	James A. Glass, Jr	Pottsville
Marion	Marion Coal Company	St. Clair,	Andrew Reese	Pottsville
Ellsworth	Lewis Bros.	New Castle	John H. Lewis	St. Clair
Roberts	Roberts Coal Company	New Castle	T. J. Jones	Hazleton.
Howard	E. C. White & Co.	Wadesville	Richard White	St. Clair
Mt. Hope	Lieberman & Co.,	St. Clair	S. L. Kaier	Pottsville
Williams	Williams Coal Co.,	Fishback	W. T. Smith,	Pottsville
East Ridge	East Ridge Coal Company	Heckscherville	Henry T. Bowe	Pottsville
Pine Hill	Pine Hill Coal Company,	Minersville	W. L. Lewis	Pottsville
Lorberry	Leach, Moore & Co.,	Lorberry	Samuel Moore	Tremont
Tamaqua	Isaac Christ,	Tamaqua	Isaac Christ	Tamaqua
Little Diamond	F. J. Simons & Co.,	Minersville	F. J. Simons	Pottsville
Bell	Gorman & Campbell	Brookside	[illegible]	Pottsville.

Table No. 1.—Continued.

Name of Colliery.	Name of Operator.	Location.	Name of Superintendent.	Postoffice Address.
Tuscorara,	Slattery Bros.,	Tuscarora,	J. J. Slattery,	Tuscarora.
Sebastopol,	Joseph H. Denning,	St. Clair,	Joseph H. Denning,	St. Clair.
Wolf Creek washery,	Standard Coal Company,	Minersville,	J. I. Hollenbeck,	Pottsville.
Palmer washery,	Tyler, McTurk & Co.,	New Philadelphia,	Patrick J. Kelly,	Silver Creek P. O.
Manhattan washery,	Manhattan Coal Company,	Forestville,	Martin Otterbein,	Pottsville.
Broad Mountain washery,	Broad Mountain Coal Company,	Newcastle,	James J. Whims,	St. Clair.
Forestville washery,	Forestville Coal Company, Limited,	Forestville,	George Moore,	Minersville.

TABLE No. 2.—Gives the total number of tons of coal mined in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder used, etc., in the Eighth Anthracite District for the year ending December 31, 1896.

Names of Collieries.	Location.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Pounds of dynamite used.
West Brookside,	Tower City,	360,970	323,433	244	1,073	1	1	5,287	85	102	3	30,420
Lincoln,	Lorberry,	296,376	276,666	210½	669	1	3	4,922	36	78	.....	6,695½
Good Spring,	Good Spring,	118,197	103,962	186.6	371	.....	.....	3,396	26	30	.....	9,846
Middle Creek shaft,	Tremont,	29,260	21,960	97.8	192	5	3	.....	10	24	.....	20,967
Otto,	Branchdale,	172,203	131,398	171.15	694	1	6	1,417	38	76	1	22,512
Phoenix Park No. 3,	Phoenix Park,	85,891	73,846	165.10	232	1	1	936	22	37	.....	4,880½
Thomaston,	Heckscherville,	149,065	119,500	170.8	570	1	6	3,572	54	67	.....	10,132
Richardson,	Glen Carbon,	115,748	97,133	169.7	325	3	2	676	34	31	.....	22,231½
Glendower,	Glendower,	127,516	106,711	171.6	456	.....	2	2,368	38	73	1	10,781
Pine Forest,	St. Clair,	88,600	77,103	166.15	379	1	1	3,598	21	28	.....	7,517
Eagle Hill,	Cumbola,	146,291	128,771	146.1	583	6	10	2,137	32	57	1	8,330
Silver Creek shaft,	Silver Creek,	239,548	228,598	169.19	982	3	10	4,161	20	74	.....	9,812
Wadesville shaft,	Wadesville,	.....	.....	.....	49	.....	.....	.....	12	8	.....	9,810
Kalmia washery,	Tremont township,	31,044	30,319	179.8	24	.....	.....	.....	1	.....	.....	.....
L. C. & Nav. Co. No. 8 colliery,	Coaldale,	189,623	177,515	162	466	.....	2	540	24	86	.....	24,000
L. C. & Nav. Co. No. 10 colliery,	Rahn township,	180,807	154,614	167¼	490	1	3	960	36	85	1	960
L. C. & Nav. Co. No. 11 colliery,	Rahn township,	186,853	157,391	171½	371	1	2	1,680	26	67	2	1,680
L. C. & Nav. Co. No. 12 colliery,	Rahn township,	92,581	79,731	179½	289	.....	2	1,200	14	34	.....	1,260
York Farm,	Pottsville,	106,489	91,199	193	524	2	6	1,105	17	31	1	21,985
Blackwood,	Blackwood,	30,918	29,722	86.6	352	.....	.....	1,071	11	.....	3	4,459
Morea,	Morea,	250,759	229,884	254.8	492	4	4	3,720	41	49	3	21,775
Kaska-William,	Middleport,	116,782	102,281	216.2	344	2	9	1,365	21	24	.....	11,850
St. Clair,	St. Clair,	49,703	44,112	151	131	1	3	2,70	14	32	2	3,600
Greenwood,	Tamaqua,	76,240	74,413	205½	148	.....	4	1,595	14	24	1	3,775
East Lehigh,	Tamaqua,	4,820	4,730	228	24	.....	.....	130	2	6	.....	200
West Lehigh,	Tamaqua,	21,782	20,141	239	60	.....	.....	850	8	8	.....	1,700
Oak Hill,	Minersville,	160,378	148,498	195½	472	1	2	3,233	21	54	.....	9,300
Lytle,	Minersville,	200,264	170,264	226	649	3	16	3,775	42	40	.....	32,960
Albright,	Llewellyn,	53,743	42,758	166	177	3	3	1,620	6	18	.....	23,400

Table No. 2.—Continued.

Names of Collieries.	Location.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Pounds of dynamite used.
Marion	St. Clair,	34,990	21,403	132	265	.....	2	697	6	16	.....	8,450
Ellsworth,	Newcastle,	19,529	18,742	270	64	.....	.....	57	3	5	.....	5,000
Roberts,	Newcastle,	27,833	26,003	267	57	.....	.....	275	1	11	.....	3,250
Howard,	Wadesville,	13,250	10,730	165½	61	.....	1	300	1	4	.....	.....
Mt. Hope,	St. Clair,	70,063	63,563	204½	157	.....	.....	487	10	11	2	9,800
Williams,	Fishback,	66,260	62,672	208½	274	1	15	2,097	4	14	.....	4,350
East Ridge,	Heckscherville,	69,468	62,968	175¾	221	.....	3	2,953	3	14	.....	3,600
Pine Hill,	Minersville,	28,878	28,692	230	70	.....	.....	850	5	8	.....	1,500
Lorberry,	Lorberry,	27,081	24,890	206½	86	.....	1	160	3	6	.....	2,350
Tamaqua,	Tamaqua,	3,301	3,001	85	36	.....	.....	106	1	3	.....	887
Little Diamond,	Minersville,	11,684	11,184	219	44	.....	.....	444	3	3	.....	1,050
Bell,	Brockville,	9,522	9,162	147½	42	.....	.....	341	2	2	.....	850
Tuscarora,	Tuscarora,	6,889	6,268	208	34	.....	.....	550	1	3	.....	1,050
Sebastopol,	St. Clair,	8,648	8,448	277	26	.....	1	40	1	14	.....	200
Total,		4,068,859	3,604,279	7,926.1	13,264	46	140	66,199	760	1,328	21	377,915½
Wolfe Creek washery,	Minersville,	60,120	58,375	174½	47	.....	.....	.....	6	2	.....	.....
Palmer washery,	New Philadelphia,	35,302	34,750	160½	28	.....	.....	.....	2	1	1	.....
Manhattan washery,	Forestville,	22,727	22,349	189	24	.....	.....	.....	2	1	.....	.....
Broad Mountain washery,	Newcastle,	42,854	42,224	210	30	.....	.....	.....	2	.....	.....	.....
Forestville washery,	Forestville,	9,985	9,585	100	12	.....	.....	.....	4	.....	.....	.....
Total,		170,988	167,283	783½	131	.....	.....	.....	16	8	1	.....
Grand total,		4,239,847	3,771,662	8,709.16	13,395	46	140	66,199	776	1,336	22	377,915½

TABLE No. 3.—Showing the Number of each Class of Employes at each Colliery in the Eighth Anthracite District during the year 1896.

Names of Collieries.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							Grand total inside and outside.
	Inside foremen.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All other company men.	Superintendents, bookkeepers and clerks.	Total outside.	
West Brookside	11	215	101	261	48	14	650	2	15	44	177	183	[illegible]	423	1 073
Lincoln	7	207	91	150	26	1	482	[illegible]	9	24	76	74	[illegible]	187	669
Good Spring	4	94	35	56	4	3	196	1	5	13	92	62	[illegible]	175	371
Middle Creek	4	48	20	25	[illegible]	3	102	1	5	14	29	40	1	90	192
Otto	9	156	52	116	26	6	365	2	9	31	99	96	[illegible]	239	604
Phoenix Park No. 3	4	71	7	52	6	2	142	1	[illegible]	11	12	[illegible]	[illegible]	[illegible]	[illegible]
Thomaston	8	158	30	116	25	16	353	2	6	26	79	102	[illegible]	217	570
Richardson	4	98	9	72	6	11	200	1	6	16	47	53	2	125	325
Glendower	5	110	31	95	20	6	267	2	9	20	77	79	2	189	456
Pine Forest	4	94	48	68	11	3	228	1	4	15	76	53	[illegible]	151	379
Eagle Hill	8	143	60	97	21	14	343	2	7	20	112	97	[illegible]	240	583
Silver Creek shaft	7	298	105	203	22	4	639	2	8	33	202	106	[illegible]	343	982
Wadesville shaft	1	1	32	.....	.....	.....	34	1	1	4	.....	8	1	15	49
Kalmia washery	.....	.....	.....	.....	.....	.....	.....	1	1	[illegible]	6	13	1	24	24
Lehigh Coal and Navigation Co. No. 8 colliery	5	88	27	148	35	16	319	1	7	12	58	69	.....	147	466
Lehigh Coal and Navigation Co. No. 10 colliery	4	63	41	137	25	23	293	1	[illegible]	18	88	85	.....	197	490
Lehigh Coal and Navigation Co. No. 11 colliery	4	70	27	103	16	5	225	1	[illegible]	18	[illegible]	64	.....	146	371
Lehigh Coal and Navigation Co. No. 12 colliery	3	72	36	68	25	8	212	1	[illegible]	11	47	38	.....	77	289
York Farm	[illegible]	102	63	88	14	[illegible]	317	2	13	16	46	103	4	187	504
Blackwood	2	120	21	34	12	[illegible]	191	1	9	10	70	68	3	161	352
Morea	1	77	50	58	25	3	214	1	11	17	89	157	3	278	492
Kaska-William	1	80	46	58	13	4	202	1	6	14	52	57	2	142	344
St. Clair	3	70	119	56	16	3	267	1	10	12	36	115	3	197	464
Greenwood	1	44	5	14	7	2	73	1	2	[illegible]	23	45	2	75	148
East Lehigh	.....	9	.....	.....	1	.....	10	1	.....	1	4	7	1	14	24
West Lehigh	1	17	4	2	4	1	29	1	2	3	16	8	1	31	60
Oak Hill	5	160	76	41	22	4	308	1	6	14	85	54	4	164	472
Lock	1	171	51	192	13	3	431	1	11	28	99	76	3	218	649

Table No. 3.—Continued.

Names of Collieries.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							Grand total inside and outside.
	Inside foremen.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All other company men.	Superintendents, bookkeepers and clerks.	Total outside.	
Albright	1	50	12	22	11	3	99	1	8	11	33	22	3	78	177
Marion	1	80	14	30	.....	.....	125	1	4	13	33	27	2	80	205
Ellsworth	1	7	.....	14	4	.....	26	1	2	2	18	14	1	38	64
Roberts	1	24	16	3	5	.....	49	1	3	4	8	12	.....	28	77
Howard	1	28	.....	3	3	.....	35	1	1	3	15	5	1	26	61
Mt. Hope	1	14	6	32	2	.....	55	2	3	12	22	55	2	96	151
Williams	1	87	70	34	12	6	210	1	4	5	21	30	3	64	274
East Ridge	1	84	20	27	6	1	139	1	5	5	42	16	3	72	211
Pine Hill	1	22	9	4	2	2	40	1	3	3	14	8	1	30	70
Lorberry	1	36	12	5	3	.....	57	1	2	2	12	11	1	29	86
Tamaqua	1	10	5	4	1	.....	21	1	.....	1	3	3	.....	8	29
Little Diamond	1	21	5	.....	.....	1	28	1	.....	3	4	7	1	16	44
Bell	1	23	3	1	1	.....	29	1	1	1	5	3	1	12	41
Tuscarora	1	15	.....	2	2	.....	20	1	1	1	6	5	.....	14	34
Sebastopol	1	3	2	.....	2	.....	8	1	.....	1	3	12	1	18	26
Total	124	3,400	1,364	2,491	499	175	8,053	52	216	506	2,152	2,154	71	5,151	13,204
Wolfe Creek washery	.....	.....	.....	.....	.....	.....	.....	2	2	3	9	25	2	43	43
Palmer washery	.....	.....	.....	.....	.....	.....	.....	1	2	2	2	25	.....	32	32
Manhattan washery	.....	.....	.....	.....	.....	.....	.....	1	.....	1	1	11	.....	14	14
Broad Mountain washery	.....	.....	.....	.....	.....	.....	.....	1	.....	2	6	20	1	30	30
Forestville washery	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	2	8	1	12	12
Grand total	124	3,400	1,364	2,491	499	175	8,053	57	220	515	2,172	2,243	75	5,282	13,335

TABLE No. 4.—List of Fatal Accidents that occurred in and about the mines of the Eighth Anthracite District for the year ending December 31, 1896.

Date of accident.	Names of Persons.	Occupation.	Age.	Married or single.	Number of orphans.	Name of Colliery.	Location—Schuylkill County.	Date of investigation.	Nature and Cause of Accident—Brief
Jan. 7.	Andrew Katchulis,	Laborer,	37	M.	1	Morea,	Morea,	Jan. 8.	Killed by explosion of a blast on stripping.
14.	John Ruscavage,	Miner,	28	S.	....	Oak Hill,	Minersville,	17.	Skull fractured by a piece of slate falling on him. Died on the 15th.
							Middleport,	25.	
24.	James McGear,	Laborer,	24	S.	....	Kaska-William,	Heckscherville,	31.	Burned by an explosion of gas. Died January 10th.
29.	Nicholas Boran,	Miner,	25	S.	....	Thomaston,	Rahn township,	Mar. 2.	Burned by an explosion of powder. Died on the 30th.
Feb. 26.	John Weldon,	Driver,	19	S.	....	L. C. & Nav. No. 10,	Morea,	6.	Fell under rock dumper and was severely injured. Died on 28th.
Mar. 5.	Christian Niemetz,	Driver,	30	....	....	Morea,	Minersville,	9.	Killed by falling down shaft while at colliery looking for work.
7.	Charles Harris,	Miner,	21	S.	....	Lytle,	Pottsville,	11.	Burned by an explosion of gas. Died on 8th.
19.	John W. Jones,	Miner,	50	W.	4	York Farm,			Killed by a fall of slate in a breast.
23.	Louis Leinheiser,	Miner,	41	S.	....	Albright,	Llewellyn,	24.	Overcome by gas and fell down manway. Died April 2d.
April 27.	Matthew Fleming,	Miner,	25	S.	....	Albright,	Llewellyn,	April 27.	Caught at face of breast by an outburst of gas and smothered.
27.	Edward Burns,	Miner,	21	S.	....	Albright,	Llewellyn,	27.	Caught at face of breast with Fleming and smothered.
29.	Charles E. Neal,	Engineer,	34	W.	2	York Farm,	Pottsville,	30.	Severely injured by being caught between rope and drum. Died on the 30th.
30.	William Eagan,	Blacksmith,	45	W	6	Richardson,	Glen Carbon,	May 13.	Kicked by a mule while shoeing it. Died May 9th.
May 7.	Adam Zimmerman,	Timber maker,	30	S.	....	Middle Creek,	Tremont,	9.	Severely injured by a log rolling on him. Died on 6th.

Table No. 4.—Continued.

Date of accident	Names of Persons.	Occupation.	Age.	Married or single.	Number of orphans.	Name of Colliery.	Location Schuylkill County.	Date of investigation.	Nature and Cause of Accident in Brief.
[illegible] 9.	Matthew Freeman	Driver,	17	S.	....	Eagle Hill,	Cumbola,	Mar.	Squeezed between cars and face of back switch. Died May 17th.
19.	Louis Lant	Miner,	24	S.	....	Thomaston,	Heckscherville,	June 1.	Squeezed between cars and face of sinking shaft. Died May 27th.
June 11.	Charles Wasel,	Laborer,	30	M.	2	Morea,	Morea,	13	Killed by a fall of surface into an old breast at stripping.
22.	John Kiraczko,	Car washer,	28	M.	....	Morea,	Morea,	23.	Killed by being squeezed between bumpers of railroad cars.
22.	Simon Diegitis,	Repairman,	50	M.	....	Eagle Hill,	Cumbola,	Aug. 28	Skull injured by a block of wood falling on him. Died Aug. 11th.
July 1.	John Gobitas,	Miner,	30	M.	1	Richardson,	Glen Carbon,	July 2	Smothered in loose coal by platform breaking down on him.
15.	Jacob Schwartz,	Schute boss,	35	M.	2	Richardson,	Glen Carbon,	[illegible]	A trammer fell on his head on June 25th. Died from effects July 15th.
Aug. 12.	John Harrison,	Driver,	17	S.	....	Eagle Hill,	Cumbola,	Aug. 13.	Killed by car jumping track and squeezing him against timber.
13.	Michael Lundy,	Miner,	56	M.	9	Pine Forest,	St. Clair,	13.	Killed by a fall of coal.
17.	John Leonard,	Driver,	17	S.	....	Kaska-William,	Middleport,	19.	Killed by falling under a loaded car.
17.	Paul Slump,	Miner,	23	S.	....	Albright,	Llewellyn,	18.	Killed by being knocked down a roadway by a rush of coal.
19.	John Ryan,	Miner,	22	S.	....	Otto,	Branchdale,	21.	Killed by a piece of slate falling on him in a breast.
Sept. 3.	Henry Hirst,	Ashman,	20	S.	....	St. Clair,	St. Clair,	Sept. 4.	Killed by being caught by a revolving fan shaft.
21.	Peter Boran,	Miner,	60	W.	2	Eagle Hill	Cumbola,	22.	Killed by a fall of coal.
24.	John Cosgrove,	Miner,	28	M.	2	Middle Creek shaft,	Tremont,	25.	Severely burned by explosion of gas. Died 25th.
24.	Jasper Newton,	Miner,	50	M.	5	Middle Creek shaft,	Tremont,	25.	Severely burned by explosion of gas. Died 27th.
24.	Charles Schoffstall,	Miner,	48	M.	9	Middle Creek shaft,	Tremont,	25.	Severely burned by explosion of gas. Died 28th.
24.	James Norton,	Miner,	38	M.	2	Middle Creek shaft,	Tremont,	25.	Severely burned by explosion of gas. Died 28th.

Oct	5.	Joseph Donnelly,	Door tender,	18	S.	....	Williams,	Fishback,	Oct	6.	Killed by concussion caused by an explosion of gas.
	16.	Andro Andro,	Miner,	28	M.	....	Williams,	Fishback,		17.	Killed by a fall of coal.
	20.	Anthony Seminites,	Miner,	30	S.	....	Silver Creek shaft.	Silver Creek,		21.	Killed by a piece of slate falling on him in a breast.
	21.	John Novitsky,	Laborer.	32	M.	3	Albright,	Llewellyn,		22.	Killed by concussion caused by an explosion of gas.
	28.	Martin Babbish,	Carpenter.	35	M.	4	Lytle,	Minersville,		29.	Killed by being run over by "gunboat" in slope.
	30.	John Kries,	Miner.	41	S.	....	Eagle Hill,	Cumbola,	Nov.	3.	Severely injured by a piece of slate falling on him. Died on 31st.
Nov	5.	John Malich,	Miner.	58	M	4	West Brookside,	Tower City.		5.	Killed by being struck by coal flying from a shot
	9.	John Perluh,	Miner,	36	S.	....	Silver Creek shaft.	Silver Creek,		30.	Severely burned by an explosion of gas. Died on 17th.
	1.	Elias Houtz,	Miner,	24	M.	2	Lincoln.	Lorberry,		12.	Killed by a fall of rock.
	24.	John McGurk,	Pulley man	23	M	1	Lytle,	Minersville,		25.	Killed by falling down a slope.
	27.	John Bike,	Miner,	29	M.	....	Silver Creek shaft.	Silver Creek,		30.	Severely burned by an explosion of gas. Died on 28th.
Dec	11.	John Gleason,	Slate picker.	17	S	....	Eagle Hill,	Cumbola,	Dec.	11.	Left leg mangled by falling into roller wheels. Died same day.
	22.	Peter Lynch,	Slate picker,	14	S.	....	Phoenix Park No. 3,	Pheonix Park,		24.	Fell from breaker while playing at noon. Died 23d.
	23.	Charles Poh,	Miner,	40	M	4	L. C. & Nav. Co. No. 11.	Rahn township,		24.	Killed by falling down manway of breast.

TABLE No. 5.—List of Non-Fatal Accidents that occurred in and about the mines of the Eighth Anthracite District for the year ending December 31, 1896.

Date of accident.		Names of Persons.	Occupation.	Age.	Married.	Number of children.	Name of Colliery.	Location.	Nature and Cause of Accident in Brief.
Jan.	2.	Joseph Bartholomew,	Fireman,	25	S.	....	Albright,	Llewellyn,	Leg cut by falling under wheels of ash car.
	6.	James Schucker,	Repairman,	....	....	....	Lincoln,	Lorberry,	Leg broken by being struck by piece of rock.
	6.	Richard Neal,	Miner,	....	....	....	Lincoln,	Lorberry,	Leg cut by a piece of slate falling on it.
	8.	Mich. Muckalevidge,	Laborer,	....	....	....	Eagle Hill,	Cumbola,	Burned by an explosion of gas.
	9.	Wm. J. Morgan,	Bottom man,	23	S.	....	Thomaston,	Heckscherville,	Injured at bottom of slope by side hooks breaking.
	14.	Geo. Leininger,	Laborer,	....	....	....	Middle Creek shaft,	Tremont,	Foot mashed by a rail falling on it.
	14.	Harry Scorinskie,	Laborer,	26	S.	....	Lytle,	Minersville,	Foot cut off; got into rolls at washery.
	14.	Mich. Gray,	Miner,	30	S.	....	Oak Hill,	Minersville,	Burned by an explosion of gas.
	16.	John Leonard,	Driver,	16	S.	....	Kaska-William,	Middleport,	Leg injured by being caught between cars.
	16.	Joseph Miller,	Laborer,	26	M.	2	York Farm,	Pottsville,	Arm cut off; caught by harness of mule.
	17.	Louis Phile,	Miner,	43	M.	5	Greenwood No. 13,	Tamaqua,	Injured by a fall of coal.
	17.	Ira Lee Wenrick,	Driver,	....	....	....	Otto,	Branchdale,	Kicked by mule and knocked under moving cars.
	18.	Sam Rissinger,	Timber man,	....	....	....	Middle Creek shaft,	Tremont,	Hand mashed by being caught between timber.
	24.	James Allen,	Miner,	23	S.	....	Kaska-William,	Middleport,	Burned by an explosion of gas.
	24.	Chas. Lemborn,	Laborer,	24	S.	....	Kaska-William,	Middleport,	Burned by an explosion of gas.
	25.	Mich. Golly,	Laborer,	26	S.	....	York Farm,	Pottsville,	Arm broken by being caught by dumper.
	29.	John Fowler,	Repairman,	40	M.	....	Albright,	Llewllyn,	Burned by an explosion of gas.
Feb.	3.	James Fox,	Sinker,	27	S.	....	St. Clair,	St. Clair,	Head injured by a piece of coal falling on it.
	8.	Anthony Shadus,	Miner,	42	M.	....	Lytle,	Minersville,	Slightly burned by an explosion of gas.

	8.	Peter Kilseavage,	Miner,	38	S.	....	Lytle,	Minersville,	Slightly burned by an explosion of gas.
	12.	James Buggy,	Miner,	38	M.	3	Thomaston,	Heckscherville,	Injured by a fall of rock.
	14.	John L. Moss,	Miner	....	....	....	Howard,	Wadesville,	Arm broken by a fall of slate.
	17.	James Llewellyn,	Driver,	17	S.	....	Morea,	Morea,	Head injured by being kicked by a mule.
	19.	Philip McIntyre,	Driver,	19	S.	....	L. C. Nav. Co. No. 11,	Rahn township,	Leg injured by falling under moving car.
	20.	James Fullon,	Miner,	27	M.	....	Lytle,	Minersville,	Injured by fall of coal.
	21.	John Kemple,	Miner,	30	M.	4	Eagle Hill,	Cumbola,	Leg injured by a collar falling on it.
	28.	Edward Gately,	Miner,	....	....	....	Pine Forest,	St. Clair,	Leg broken by being caught between car and props.
	28.	John Jefferson,	Driver,	18	S.	....	Albright,	Llewellyn,	Leg broken by being caught by moving car.
March	7.	Daniel States,	Miner,	29	M.	....	Lytle,	Minersville,	Burned by an explosion of gas.
	10.	Emil Ploppert,	Laborer,	28	S.	....	York Farm,	Pottsville,	Injured by fall of slate.
	11.	John Griffith,	Miner,	34	M.	1	Williams,	Fishback,	Finger cut off by being caught between cars.
	14.	Mich. Beushock,	Miner,	48	M.	5	Oak Hill,	Minersville,	Injured by premature explosion of blast.
	16.	John McGarity,	Driver,	18	S.	....	Silver Creek shaft,	Silver Creek,	Injured by falling in front of moving car.
	20.	Stanish Lilinski,	Brattice man,	33	M.	....	Williams,	Fishback,	Burned by an explosion of gas.
	21.	John Schico,	Laborer,	35	M.	....	L. C. & Nav. Co. No. 11,	Rahn township,	Hips injured by being caught between cars.
	23.	Matthew Fleming,	Miner,	25	S.	....	Albright,	Llewellyn,	Injured by falling down manway.
	26.	John McLafferty,	Miner,	38	M.	6	Silver Creek shaft,	Silver Creek,	Injured by a fall of slate.
April	2.	James Harkins,	Miner,	39	M.	1	Williams,	Fishback,	Thigh broken by a fall of rock.
	6.	Charles Mugford,	Pumpman,	....	M.	1	Lytle,	Minersville,	Slightly injured by rope breaking.
	8.	Frank Korinski,	Miner,	26	M.	1	Lytle,	Minersville,	Hands burned by an explosion of gas.
	8.	Mich. Tseno,	Miner,	24	S.	....	Lytle,	Minersville,	Hands and face burned by an explosion of gas.
	9.	John Sutton,	Laborer,	34	M.	2	Williams,	Fishback,	Burned by explosion of gas.
	13.	Martin Muldowney,	Topman,	23	S.	....	Thomaston,	Heckscherville,	Injured by bursting rope striking him.
	16.	John Sweeny,	Miner,	38	M.	4	Mt. Hope,	St. Clair,	Eye injured by being struck by a piece of coal.
	16.	Charles Stank,	Miner,	36	M.	3	Kaska-William,	Middleport,	Injured by premature explosion of blast.
	28.	Joseph Kuckinski,	Miner,	30	S.	....	Silver Creek shaft,	Silver Creek,	Injured by a fall of coal.
	30.	Henry Rieman,	Miner,	40	M.	6	Greenwood No. 13,	Tamaqua,	Hip dislocated by a fall of slate.
May	4.	John Llewellyn,	Driver boss,	22	S.	....	Morea,	Morea,	Ankle broken by falling down shaft.
	5.	Joseph Mampia,	Laborer,	55	M.	2	Marion,	St. Clair,	Leg injured by being caught between cars outside.

Table No. 5.—Continued.

Date of accident.	Names of Persons.	Occupation.	Age.	Married.	Number of children.	Name of Colliery.	Location.	Nature and Cause of Accident in Brief.
May 13.	Frank Krammes,	Platform man,	23	S.	....	Glendower,	Glendower,	Injured by passing through between rolls and breaker. A large lump of coal started the rolls, causing the belt to slip. He stood on the rolls and broke the lump, after which the rolls started and took him through. He resumed work in three weeks.
13.	John Kusul No. 2,	Laborer,	39	M.	2	Morea,	Morea,	Collar bone broken.
13.	Stiney Rafflick,	Miner,	40	....	....	Lytle,	Minersville,	Burned by an explosion of gas.
18.	James Strausser,	Laborer,	22	S.	....	Lincoln,	Lorberry,	Arm broken by a fall of rock.
21.	Mich. Kantner,	Loc. Engineer,	60	M.	5	L. C. Nav. Co. No. 10,	Rahn township,	Scalded by steam caused by steam pipe being broken by a lump of coal.
22.	Oliver Tobias,	Laborer,	....	....	....	West Brookside, E. slope,	Tower City,	Foot injured by being caught between gunboat and platform.
26.	Chas. Katitus,	Miner,	25	S.	....	Silver Creek shaft,	Silver Creek,	Injured by a fall of slate.
27.	Mich. Kokish,	Miner,	38	M.	2	Williams,	Fishback,	Burned by explosion of gas.
27.	John Straoff,	Laborer,	21	S.	....	Williams,	Fishback,	Burned by explosion of gas.
31.	Mich. Gavin, Jr.,	Miner,	30	S.	....	Lytle	Minersville,	Hip dislocated by a fall of coal.
June 2.	Joseph J. O'Brien,	Driver,	17	S.	....	L. C. & Nav. Co. No. 8,	Coaldale,	Leg broken by falling under cars.
9.	John Mitchell,	Miner,	30	S.	....	Eagle Hill,	Cumbola,	Leg injured by a fall of slate.
11.	Mich. Brostak,	Miner,	28	S.	....	East Ridge,	Heckscherville,	Leg and neck injured by a fall of slate.
15.	William Rumph,	Miner,	39	M.	3	Lincoln,	Lorberry,	Arm and leg broken by a fall of slate.
18.	Peter Sevitzkey,	Miner,	29	S.	....	Pine Hill,	Minersville,	Arm broken by explosion of blast. He thought it had missed and returned too soon.
20.	Andrew Bille,	Starter,	33	M.	1	L. C. & Nav. Co. No. 10,	Rahn township,	Face and head injured by explosion of dynamite. He thought it had missed fire and returned to it too soon

July	1.	Henry Osman,	Miner,	54	M.	5	Lincoln,	Lorberry,	Severely injured by fall of coal.
	6.	Martin Rumschisky,	Miner,	42	M	1	East Ridge,	Heckscherville,	Injured by a fall of slate.
	6.	Henry Snell,	Inside foreman	42	M.	5	Lorberry,	Lorberry,	Three ribs broken by being squeezed between wagon and prop.
	7.	Wilson Andrews,	Engineer,	36	S.	....	St. Clair,	St. Clair,	Injured by being struck by runaway cars on outside plane.
	7.	John Heslop,	Fireman,	41	M.	4	St. Clair,	St. Clair,	Injured by being struck by runaway cars on outside plane.
	9.	James Morrow,	Dumpman,	16	S.	....	Mt. Hope,	St. Clair,	Hand cut by being caught by car wheel.
	9.	Thomas Whalen,	Miner,	45	S.	....	East Ridge,	Heckscherville,	Hip injured by fall of bone.
	10.	Solomon Parry,	Breaker boy,	18	S.	....	Morea,	Morea,	Head cut by elevator buckets falling on him while repairing them.
	15.	Fred. Gould,	Slate picker,	13	S	....	Lytle,	Minersville,	Arm broken by falling from breaker steps at noon while playing.
	16.	John Williams,	Miner,	28	S.	....	St. Clair Coal Co's shaft,	St. Clair,	Injured by premature explosion of blast while tamping.
	16.	John Mozereavitch,	Laborer,	26	S.	....	St. Clair Coal Co's shaft,	St. Clair,	Injured by premature explosion of blast while tamping.
	21.	William Leichman,	Driver,	15	S.	....	Lytle,	Minersville,	Burned by explosion of gas.
	21.	Edward Lipsett,	Miner,	30	S.	....	Richardson,	Glen Carbon,	Two fingers mashed by a fall of coal.
Aug	3.	Thomas Mason,	Miner,	45	M.	6	St. Clair,	St. Clair,	Head injured by a fall of coal.
	10.	Morris Owens,	Miner,	32	M.	6	Williams,	Fishback,	Burned by an explosion of gas. He went to face with naked light after firing a shot.
	13.	Howard Stain,	Miner,	50	M.	8	Eagle Hill,	Cumbola,	Ribs fractured by a fall of coal.
	14.	Mich. Crowe,	Miner,	35	M.	2	Lytle,	Minersville,	Burned by explosion of gas.
	14.	Geo. Poloski,	Laborer,	....	S.	....	Lytle,	Minersville,	Burned by explosion of gas.
	14.	Geo. Gustitus,	Laborer,	....	S.	....	Lytle,	Minersville,	Burned by explosion of gas.
	16.	Thomas Quinn,	Eng neer,	42	M	6	Otto,	Branchdale,	Scalded by steam caused by steam pipe bursting.
	16.	Harry Carter,	Fireman,	32	M.	4	Otto,	Branchdale,	
	18.	Eli Zerbe,	Laborer,	28	M.	3	Otto,	Branchdale,	Leg broken by being caught between wagon and timber.
	18.	David Dorian,	Miner,	33	M.	5	L. C. & Nav. Co. No. 8,	Coaldale,	Leg broken by a fall of slate.
	19	Geo. Jones,	Miner,	50	M.	7	Thomaston,	Heckscherville,	Severely injured by a fall of coal in a breast.
	20.	Sam Coviljeck,	Laborer,	23	S.	....	Eagle Hill,	Cumbola,	Leg broken by being caught by a mine car outside.
	26.	Andrew Sweigart,	Miner,	27	M.	2	Glendower,	Glendower,	Nose broken and body injured by being caught by mine car that jumped the track.
	27.	Geo. Morgans,	Driver,	18	S.	....	Thomaston,	Heckscherville,	Wrist broken by being caught between mine car and timber.
Sept	2.	Joseph Peteras,	Miner,	31	S.	....	Williams,	Fishback,	Burned by an explosion of gas.
	2.	John Egan,	Miner,	34	M	5	Williams,	Fishback,	Burned by an explosion of gas.
	3.	Louis Hetterling,	Miner,	50	S.	....	Silver Creek shaft,	Silver Creek,	Leg broken by a fall of coal.
	7.	Andrew Morovitz,	Laborer,	38	S.	....	Williams,	Fishback,	Injured by coal flying from a blast.
	9.	Henry Schwaim,	Miner,	35	M	....	Kaska-William,	Middleport,	Burned by gas. Had fired a shot in a breast and returned with a naked light.

Table No. 5.—Continued.

Date of accident.	Names of Persons.	Occupation.	Age.	Married.	Number of children.	Name of Colliery.	Location.	Nature and Cause of Accident in Brief.
Sept 9.	Adam Derr,	Miner,	50	M.	8	Kaska-William,	Middleport,	Burned by gas. Had fired a shot in a breast and returned with a naked light.
10.	James Kennedy,	Jig engineer,	15	S.	....	Eagle Hill,	Cumbola,	Leg broken by falling in pump room.
14.	John Dwarshock,	Miner,	30	S.	....	Lytle,	Minersville,	Leg injured by a piece of coal falling on it.
14.	Mich. Blewiski,	Laborer,	30	S.	....	Williams,	Fishback,	Injured by a fall of coal.
22.	James Collier,	Miner,	48	M.	7	Silver Creek shaft,	Silver Creek,	Arm cut off by being struck by a loose piece of slate which slid from gob.
24.	Adam Burke,	Miner,	30	....	....	Lytle,	Minersville,	Injured by a fall of coal.
24.	Edward Dunmoyer,	Miner,	37	M.	2	Middle Creek shaft,	Tremont,	Arm broken by concussion caused by an explosion of gas.
26.	Wm. Brennan,	Aghman,	19	S.	....	Marion,	St. Clair,	Leg broken by falling under ash dumper.
Oct 5.	Rich. Reese,	Miner,	58	M.	....	Williams,	Fishback,	Burned by an explosion of gas.
5.	Edward Reese,	Laborer,	24	S.	....	Williams,	Fishback,	Burned by an explosion of gas.
7.	John Richko,	Laborer,	25	S.	....	L. C. & Nav. Co. No. 10,	Rahn township,	Burned by an explosion of gas. Went up a schute at night with a naked light.
21.	Ellwood Schoffstall,	Miner,	33	M.	2	Albright,	Llewellyn,	Injured by concussion caused by an explosion of gas.
22.	John Minemaker,	Miner,	35	M.	....	L. C. & Nav. Co. No. 12,	Rahn township,	Slightly burned by explosion of gas in a schute.
22.	Thomas Furey,	Miner,	45	M.	....	L. C. & Nav. Co. No. 12,	Rahn township,	Slightly burned by explosion of gas in a schute.
24.	Wm. O'Donnell,	Driver,	19	S.	....	Richardson,	Glen Carbon,	Part of hand taken off by falling under car
Nov. 2.	Aug. Dunhamer,	Driver,	20	S.	....	York Farm,	Pottsville,	Leg broken by mules falling and throwing him under cars.
6.	Chas. Gelsh,	Laborer,	26	S.	....	Thomaston,	Heckscherville,	Foot cut off by a fall of slate.
7.	Mich. Limasites,	Miner,	....	....	....	Silver Creek shaft,	Silver Creek,	Burned by an explosion of gas.
7.	Adam Thomas,	Miner,	....	....	....	Silver Creek shaft,	Silver Creek,	Burned by an explosion of gas.

9.	Mich. Dunchos,	Miner,	..	..	..	Silver Creek shaft,	Silver Creek,	Burned by an explosion of gas.
17.	Yergne Lednesky,	Laborer,	56	M	2	York Farm,	Pottsville,	Back injured by a piece of slate falling on him.
18.	Andrew Smyth,	Laborer,	24	S.	....	St. Clair,	St. Clair,	Head injured by a fall of coal.
18.	Wm. Legesky,	Starter,	..	....	....	Kaska-William,	Middleport,	Collar bone dislocated by being squeezed by mine car.
25.	John Armstrong,	Driver,	18	S.	....	Eagle Hill,	Cumbola,	Arm injured by being kicked by a mule.
27.	John Fitzsimd,	Miner,	36	S.	....	Silver Creek shaft,	Silver Creek,	Burned by an explosion of gas in breast.
30.	Geo. Reese,	Miner,	50	....	....	Eagle Hill,	Cumbola,	Head cut and ribs broken by a rush of coal in breast.
30.	Con Brock,	Miner,	30	S.	....	Eagle Hill,	Cumbola,	Face and arm cut by a rush of coal in breast.
Dec. 2.	Wilhelm Schultz,	Miner,	35	S.	....	Lytle,	Minersville,	Injured by a collar falling on him.
3.	Joseph Forecsky,	Feeding rolls,	16	S.	....	Kaska-William,	Middleport,	Foot injured by getting it into roller wheels. Plank covering broke with him.
5.	Joseph Flannery,	Driver,	....	....	....	Eagle Hill,	Cumbola,	Top of thumb cut off by having it caught in traces.
7.	William Brophy,	Miner,	35	M.	4	Otto,	Branchdale,	Leg broken by a lump of slate rolling on it.
8.	Mich. Moses,	Inside foreman,	40	M.	5	Kaska William,	Middleport,	Leg broken by a lump of slate rolling on it.
12.	John Ambrose,	Miner,	45	M.	....	Lytle,	Minersville,	Head and shoulders injured by a prop falling on him.
14.	Henry Shappel,	Driver,	22	M.	....	Lytle,	Minersville,	Arm broken by being squeezed between mine cars.
14.	Paul Donaldazer,	Car loader,	25	M	....	Greenwood,	Tamaqua,	One finger cut off and three mashed, by being caught between bumpers of cars.
14.	Aaron Ressler,	Platform man,	33	M	1	Greenwood,	Tamaqua,	Injured by being squeezed between mine cars on breaker tip.
14.	Frank Petrat,	Miner,	39	M.	3	Williams,	Fishback,	Injured by falling under mine cars at bottom of slope.
14.	Joseph Poorkas,	Miner,	28	M.	1	Williams,	Fishback,	Injured by falling under mine cars at bottom of slope.
14.	John Gozalla,	Miner,	36	M.	3	St. Clair Coal Co. shaft,	St. Clair,	Burned by an explosion of powder while filling a cartridge.
19.	John Seckra,	Laborer,	70	S.	....	Sebastopol,	St. Clair,	Injured by a lump of coal rolling from stripping which struck him.
22.	Edward Edwards,	Laborer,	19	S.	....	York Farm,	Pottsville,	Leg injured by being caught between mine cars outside.
28.	Charles McGovern,	Bottom man,	43	M	5	Otto,	Branchdale,	Back injured by a lump of coal rolling down the slope and striking him.
30.	John Metlirk,	Miner,	50	M	7	Phoenix Park No. 3,	Phoenix Park,	Injured by explosion of blast while in the act of lighting it.

BITUMINOUS MINE DISTRICTS.

19--11--96

FIRST BITUMINOUS DISTRICT.

(ALLEGHENY, FAYETTE, GREENE, WASHINGTON AND WESTMORELAND COUNTIES.)

Hon. James W. Latta, Secretary of Internal Affairs:

Sir: I have the honor to herewith submit my annual report as Inspector of Mines for the First Bituminous coal district for the year ending December 31, 1896.

The quantity of coal reported as being mined in the district during the year was 6,697,601 tons, or 1,157,650 tons more than for the year 1895. There are 76 mines in this district, which come within the provisions of the act of May 15, 1893, relating to bituminous coal mines. Of the above number, the Abe Hayes, Stockdale and Vesta No. 3 remained idle the entire year, and the coal produced in Vesta No. 2 was run over the tipple of Vesta No. 1.

I am sorry to have to record an increase of nineteen fatal accidents over those of the previous year, being a total of 44.

As a result of these fatalities, 18 wives were made widows and 53 children fatherless. The non-fatal accidents also show an increase of 41 over those of the year 1895.

Upon investigation into the causes of those fatalities, I found that a number were due to ignorance, on the part of the victims themselves, of the dangers incident to the mining of coal. Gross negligence also played a part, while others could be classified as purely accidental and could not have been averted. Relative to these fatal accidents, I have, in another part of this report, given a statement of each, to which the reader's attention is called. It will be noticed from the report that four persons lost their lives by explosions of gas—two of which were the result of passing "fire" boards, in violation of the act relating to bituminous coal mines—one by the neglect of another person in not closing a door after he had passed through it; this person, on seeing the result of his carelessness, left for parts unknown. A report of the other will be found in the description of the Mongah mine.

Summary of Statistics—1896.

Number of mines in the district, ...	76
Number of mines operated during the year, ...	73
Number of tons, run of mine, of coal mined, ...	6,697,601

Number of tons of coal shipped,	6,683,071
Total number of days worked as reported,	10,895
Total number of persons employed in and about the mines,	10,977
Number of kegs of powder reported as used in the mines,	18,549
Number of mine locomotives,	3
Number of horses and mules,	682
Number of steam boilers,	141
Number of coke ovens,	6
Number of fatal accidents,	44
Numebr of non-fatal accidents,	107
Number of wives made widows by these casualties,	18
Number of children made orphans,	53
Number of tons of coal produced per each fatal accident,	152,218
Number of tons of coal produced per each non-fatal accident,	62,594
Number of persons employed per each fatal accident,	249
Number of persons employed per each non-fatal accident,	102

Table Showing the Fatal and Non-Fatal Accidents from Various Causes for the Year 1896.

	Fatal.	Non-fatal.
By falls of slate,	24	39
By falls of coal,	4	12
By fall of "horse-back,"		2
By fall of rock,		1
By falls of coal and slate,	2	2
By explosions of fire-damp,	3	7
By falls of shale,	1	
By falls of roof,	1	8
By being caught between car and coal pillar,	3	2
By inhaling after-damp,	1	
By mining machines,		2
By cars,	1	20
By dilly trips,	4	
Miscellaneous,		12
Total,	44	107

As a whole the mines are in a better condition as regards ventilation and drainage, than they were in the year 1895.

The usual tables will be found in their proper places, as well as a description of each mine in the district.

A plan showing the workings of the Washington mine, where an explosion occurred on June 29th, which resulted in the death of Louis De Christi and Michael Barrabas, accompanies this report.

All of which is respectfully submitted.

HENRY LOUTTIT.
Inspector of Mines.

Monongahela, Pa., March 8, 1897.

Mines located on the Monongahela Division of the Pennsylvania Railroad.

Charleroi.—Among the improvements made at this mine during the year, was the erection of a ventilating fan, twenty feet in diameter. On my last visit to the mine I measured 44,000 cubic feet of air entering the same. Total number of persons employed inside, 136. Condition of mine fair.

Fidelity.—On the date of my last examination of this mine I found the general condition of the same fair.

Allen.—The ventilation and drainage required improvement in this mine on each visit made to it during the year. The attention of those in charge was called to the matter and I have since been informed that the ventilation has been increased and the drainage improved.

Acme.—On my last visit to this mine the ventilation was fair, with the exception of entries 8 and 9, where the entry pillars were being withdrawn. These places were unsatisfactory, owing to the presence of black damp (CO^2) in the air. I suggested that these entries should be vacated until they were properly ventilated.

Courtney.—This mine was found in fair condition on each examination made during the year.

Mines Located on the Monongahela River.

Beaver.—On my last visit to this mine, I found the ventilation fair, but the drainage required improvement in parts of the same. Eighteen persons were at work inside, and only in communication with two openings inclusive of the furnace upcast shaft, and nothing was being done in the direction of another opening. I suggested that another opening be commenced without unnecessary delay, and that no more than twenty persons should work inside until the additional opening was completed; this the company

promised to do. A short time after this, operations ceased, and I am informed that the mine has passed into other hands and will not be operated again.

Ivil.—Condition of mine fair. Volume of air at outlet, 52,800 cubic feet. Persons employed inside, 141.

Wrights Bar.—This is a small mine located on the west side of the river near the village of Fredericktown. It consists of two butt, and two face headings. The latter are being driven for the purpose of providing additional openings. General condition of mine as regards ventilation and drainage fair.

Crowthers.—When last examined the mine was in fair condition.

Beaumont.—On my last examination, I found the traveling way in a very unsatisfactory condition, owing to falls and water. I wrote the company in regard to the matter, and asked them to put the traveling way in better condition, so as to comply with the law. Another cause of complaint was the non-compliance, by those in charge, of the law in regard to the use of the safety block on the slope, and a drag on the trip as it was hauled up the slope. They had the appliances, but did not keep the former in order, nor use the latter, except at intervals, or as it might be expressed, when it suited them. I have had occasion to call their attention to this matter before. On my last visit, I informed them that if I again found this cause of complaint existing, other means would be employed to enforce the provisions of the act relating to those safety appliances. Apart from the above, the mine was in fair condition.

Fox.—In fair condition, as regards ventilation and drainage. Inlet air measurement, 6,100 cubic feet per minute. Persons employed inside, 40.

Anchor and Fawcett.—These mines were found in a satisfactory condition when last examined.

Little Redstone.—Mine not in operation when last visited.

Old Eagle.—When last examined, the general condition was satisfactory.

Cincinnati.—In fair condition on the date of my last visit.

Blyth.—On each visit to this mine during the year, I found the ventilation fair. The drainage, however, was not up to the legal requirements. A short time previous to my second visit a few rooms fell in, which caused a large body of water to enter the mine, resulting in the inundation of two entries, causing their temporary abandonment. To get this water out, three lines of syphon pipe were used, having a diameter of two, three and four inches respectively. Even with this, it was quite a while before work could be resumed in the above entries.

Caledonia.—This mine was not in operation on my last visit, but on the previous examination I found it in fair condition.

Camden.—This mine was found in a fair condition when last examination was made.

Black Diamond.—Has not been in operation since the early part of the year. General condition of mine at that time was fair.

Hilldale.—This mine was not in operation when I made the last visit.

Snow Hill.—Was, in a general way, when last examined, in a satisfactory condition.

Abe Hays, Stockdale and Vesta No. 3 were idle the entire year.

Christenia, formerly Jefferson.—In operation but four days during the year.

Banner.—This mine was not in operation on my last visit. Previous examinations found it, in a general way, satisfactory.

Stonesburg.—On the date of my last visit, the ventilation and drainage were in parts very unsatisfactory. Owing to the method adopted in working the coal in this mine, it is a very difficult matter to put it in the condition required by the act relating to bituminous coal mines.

Bunola.—Among the improvements made at this mine during the year was the installation of a complete electric plant. The condition of the workings as regards drainage was fair, but the ventilation required improvement, when last examined.

Little Alps.—This mine was, as regards ventilation, when last examined, in a very unsatisfactory condition. The anomometer would not register in any part of the mine except the outlet. This showed 14,450 cubic feet of air. I suggested that the air be increased to the amount required by the act. I have since been informed that my suggestions have been complied with.

Apollo.—On my last examination of this mine, I found it in a much better condition as regards ventilation, than on previous visits, but there was still room for improvement in this particular. A ventilating fan will be placed in position at this mine and work has already been commenced on the foundation for the same.

Coal Centre.—In operation one hundred and fifty days during the year. General condition of mine satisfactory.

Vesta No. 2.—On the date of my last visit to the mine, I found it in fair condition as regards ventilation and drainage.

Walton Upper and Lower Mines.—Each of these mines was idle when last visit was made.

Rostraver.—The ventilation and drainage required improvement in parts of the mine at the date of my last examination. I suggested that attention be given these matters so as to have the mine in such a condition as is required by law. I have since been informed that the ventilation and drainage have been considerably improved.

Crescent.—On the date of my last examination of this mine, the ventilation in parts was unsatisfactory. There was an ample quantity of air entering the mine for the number of persons at work, but it was not properly distributed.

Cedar Hill.—This mine has not been operated very steadily during the year, and at no time, as far as I am informed, did they employ a sufficient number of persons to come under the jurisdiction of this office.

Amity, Milnesville and Catsburg were each, on my last visit, in fair condition.

Clipper.—On the date of my last examination of this mine the ventilation in parts of the same was unsatisfactory. A volume of 13,060 cubic feet of air per minute was entering the mine, which was ample for the number of persons employed inside, if it had been properly distributed. I suggested that the law relating to ventilation be complied with. I have since been informed that the ventilation has been very much improved.

Stony Hill.—The ventilation and drainage in this mine, when last examined, required improvement in parts. The traveling way was also in a very unsatisfactory condition, owing to water being in such quantities as to make it almost impassible. I suggested that the ventilation be increased and that the traveling way be put in proper condition. I have since been informed that the former has been increased and the latter put in order.

Fayette City.—General condition of ventilation, fair. Drainage required improvement in parts of the mine. I suggested that the drainage be improved, which I am informed has been done.

Allequippa.—In fair condition when last examined.

Chamouni.—On the date of my last visit the ventilation and drainage in some parts were unsatisfactory. I suggested that the drainage be attended to and cause of complaint removed. Am informed that quite an improvement has been made in this direction.

Albany.—Mine not in operation when last visited.

Vigilant.—On my last visit to this mine, I found that part of the workings only were being examined by the fire boss. I requested that this practice be discontinued and the act be complied with. Cubic feet of air at the inlet, 28,600. Number of persons employed inside, 134. General condition of mine, as regards ventilation and drainage, fair.

New Eagle.—General condition of ventilation, fair; the drainage, however, required improvement in parts of the mine. I suggested that the drainage be attended to and also that the stairway in shaft should be put in a proper condition, so that it could be used in cases of emergency.

Fulton.—When last examined, ventilation and drainage required improvement. This mine has not been operated very much during the year. Is now idle with no prospects of an early resumption.

Knob.—Mine not in operation when last visit was made. I examined the mine and found it, as regards ventilation and drainage, in a satisfactory condition. The inlet air measurements showed a volume of 36,000 cubic feet.

Coal Bluff.—Ventilation requires improvement in parts of this mine. Two furnaces are operated, neither of which has the power to produce the air required. I called the attention of those in authority to the condition of the mine and I am informed that a ventilating fan will be erected, negotiations now being in progress.

Cliff.—Mine not in operation when last visited.

Champion.—General condition of drainage satisfactory, but the ventilation in parts of the mine required improvement.

Climax.—Mine not in operation when last visited.

Umpire.—Ventilation and drainage required improvement when last examined. The mine consists of six butts and two face headings. Volume of air at the "Point," 10,000 cubic feet. Main inlet, 12,735 cubic feet. Total number of persons employed inside, 130.

Eclipse.—Number of persons employed inside on my last visit, 107; classified as follows: 6 machine men, 30 fillers, 57 pick men, 6 drivers, 4 day men and 4 trappers. Condition of mine, fair.

Tremont.—General condition of ventilation, fair. The drainage in parts of the mine required improvement. During the year a ventilating fan 18 feet in diameter was installed. The fan is of the Guibal type, with eight blades, five feet wide, driven by an engine, 14x18 inches, coupled direct to the fan.

About 11 o'clock of the morning of September 3, an explosion of fire damp occurred in this mine, which resulted in the fatal injury of Robert Sisley, American, a driver, aged 19 years. On subsequent investigation into the cause of this accident, I found that the deceased had been engaged in hauling water out of a room known as No. 32 on entry No. 5, the purpose being to put the room in order, so that an opening could be made into room No. 31, the object being to remove some gas from the fall of the latter, the use of brattice for the purpose having failed. Driven parallel with entry No. 5 was the "new dump" entry. Between those entries was a "cross over" in which stood a door. This door was to guide the air that ventilated the above named entries. On the day of the explosion, John Parks, another driver, was hauling coal out of the new pump entry on to the "double parting," which was located on No. 5, and as a consequence he had to pass through the door in the "cross-over." Those in charge, knowing that this door should be kept closed, except when absolutely necessary to be open, gave Parks positive instructions regarding the same. Parks in passing through with

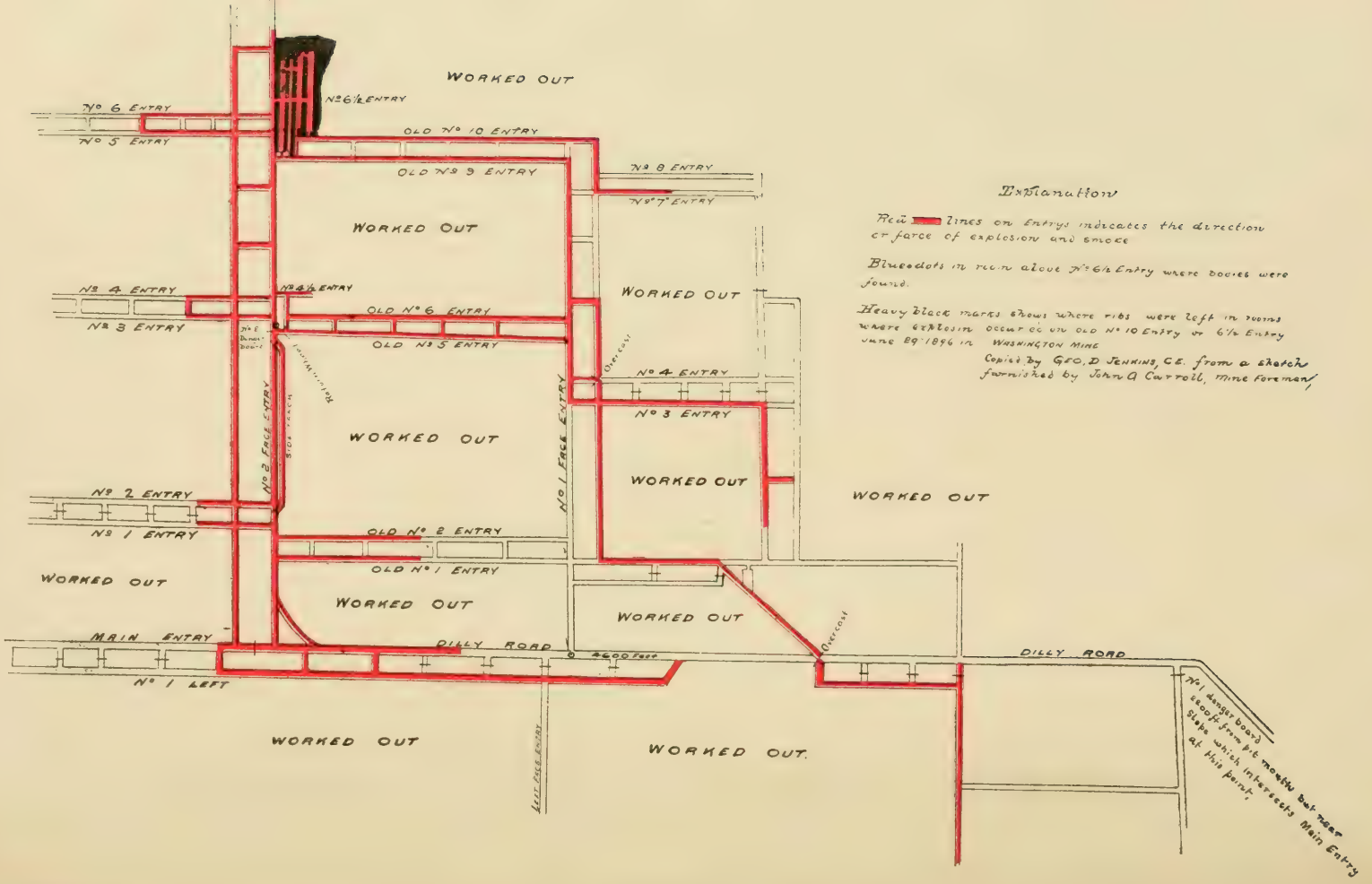
an empty trip, failed to close the door. This door stood open while Parks gathered a trip of four cars and repaired a set of harness which had become broken while he was in the entry. The time spent in the above work was estimated at one hour and fifteen minutes. Parks in passing through with his full trip closed the door. This caused the air to take its proper channel, which was up the new pump entry and down No. 5. The gas by this time had worked itself off the fall and on to the entry, when it came in contact with the deceased's naked light, as he was passing the entrance to the room, with his water car, causing the gas to explode. The verdict of the coroner's jury was that Robert Sisley came to his death through the negligence of John Parks, a driver.

Vesta No. 1.—In operation 225 days during the year. Number of persons employed inside, 180. Outside, 22. On the last examination of this mine, I found the ventilation in parts of the same not up to the legal requirements and I suggested that the law relating to it be complied with.

Ella.—On the date of my last visit, the condition of the mine was, in a general way, satisfactory.

Watson.—General condition, when last examined, satisfactory.

Rock Run.—On the morning of November 10, a slight explosion of natural gas occurred in this mine, which might have resulted in the death of every person inside, but fortunately only a small portion ignited, the main body being too pure to explode. Being notified, I reached the mine about 2 P. M. I found that a "cave-in" had taken place among some room pillars that had been withdrawn and that they were immediately under a natural gas line, which was laid over this part of the workings. The fall had taken place some time during the night of the ninth, causing the pipe line to be partly separated. This allowed gas to escape, part of which entered the mine through the crevices made by the fall. In examining the falls I found large quantities of gas still on them and suggested that the mine remain idle until it was removed. I then had an interview with the Natural Gas Company's officials and asked them to uncover their pipes and place them on trestles so that the leakage could mix with the outer air and not enter the mine. These suggestions were complied with only in part. I visited the mine again on the twelfth. On this date gas could still be detected on the falls, so I remained with those in charge of the mine and assisted in removing a large quantity of gas from the falls. In the meantime the Natural Gas Company was repairing the injury done their line. A few days later I was informed that no gas could be detected in the workings and the mine then resumed operations. In the early part of the year I called the attention of those in charge of the mine to the proximity of this line to the workings, and requested them to notify the



Explanation

Red lines on Entrys indicates the direction of force of explosion and smoke

Blue dots in room above No 6½ Entry where bodies were found.

Heavy black marks shows where ribs were left in rooms where explosion occur on or on old No 10 Entry or 6½ Entry June 29 1896 in Washington Mine

Copied by GEO. D JENKINS, C.E. from a sketch furnished by John A Carroll, mine foreman

gas company that it was necessary that something be done in regard to their line. This, I am informed was done, and the outcome was that they should name a time to meet at the place, so as to devise some means to prevent any danger from their pipes, but it seems that the time was not set, so that nothing more was heard of the matter until the explosion. After waiting for the Natural Gas Company for some time, the coal company put a force at work on the room pillars on entry No. 2, and some were at work under the gas line. When they were withdrawn, a cave-in occurred resulting as above. No provisions having been made for the protection of the gas lines, it was dangerous to remove the coal from under them for their presence was a standing menace to the safety of the mine. The gas company should have made arrangements in regard to them when their attention was called to the matter.

Washington.—On the evening of June 29th, an explosion of gas occurred in this mine which resulted in the death of two Italian miners, Louis De Christi and Michael Barrabas.

In examining into the cause of this accident, I found that the mine had not been in operation since the 7th of June, and from that date until the day of the explosion, the ventilating fan had been run only at intervals. On June 20th, some of the men requested the mine foreman to start the fan, as they wished to go to work. The fan was started and ran for three days, and as no one appeared to go to work during this time, it was stopped, and remained so until June 29th, when a request was again made to start it, but this time it was for the purpose of taking out their tools. Subsequently the fan engineer was ordered to start the fan, and while oiling it preparatory to starting, the explosion occurred. The engineer immediately notified the mine foreman, John A. Carroll, who, in company with the superintendent, W. H. Gregg, entered the mine, but could not proceed very far, owing to the after-damp. They discovered, however, that a great many stoppings were blown out which would have to be repaired before they could reach the inside, where the victims were. A general alarm was then given, which brought help from the neighboring mines, among whom was John McVicker, mine foreman of Snow Hill mine; John Hays, fire boss of the same; John Lavery, fire boss of Little Redstone mine; Joseph Donald, Thomas Cosgrove and Arthur Neel, who gave valuable aid in putting the mine in order so as to reach the bodies of those killed. There was some delay in informing the Inspector of the explosion, owing to the lateness of the hour when the superintendent and mine foreman returned from the mine from making their first trip into it after the explosion. As a consequence I did not reach the mine until about 10 A. M. of the 30th. By this time the rescuers had reached a point near the return wheel (See map accompanying this report). In examining the mine,

I found the after damp so strong, a short distance beyond the last stoppings that were put in by the rescuers that it was impossible to proceed; so stoppings were put in as fast as possible, but it was not until about 7 P. M. of the 30th that we reached the first body, which was that of Michael Barrabas, who was found in room No. 1, entry 6½, between two falls, one being a large one; under this the body of Louis De Cristi was found on July 5.

On further investigation I was informed that there were two "danger" boards up, to warn persons not to pass. One was placed near where the slope intersects the main entry and the other, which was a gate, was located at the extreme end of the double parting. These men passed over the first and crawled under the second, and when they reached room No. 1 on entry 6½, the gas fired from an open light which one of them carried, and the force of the ignited gas was so terrific that one mine car was literally blown to pieces, while others were thrown from the track and piled up on each other. The verdict of the coroner's jury was that the men came to their death through their own negligence.

The reader's attention is called to the plan of this part of the mine, which is made a part of this report.

Buffalo.—In operation 115 days during the year. Number of employes inside, 91; the condition of mine on my last visit was fair.

Mongah.—About 9 o'clock on the morning of May 14, an explosion of gas occurred in this mine which caused the death of George W. Claughton, a miner, aged 35 years, and the serious injury of Frederick Whyles, a day hand. Some three hours previous to the accident Whyles had been working on the main entry, filling in a "break through" between that entry and the "return," with material from the roof which had been blasted down for the purpose of leveling up the road. On finishing part of the work, he passed through the "break-through," intending to close up the end next the "return," but he had been at work only a short time when the gas fired from his open light. Though badly injured he made his way out to the main entry and escaped the effects of the after-damp, which was fast permeating the atmosphere of the mine in this part owing to the stoppings having been blown out, thus cutting off the air current. By this time those who (the deceased having been one of the number), worked on entry 12, heard the explosion and a rush was made for the main entry, but unfortunately on reaching the door that stood on the latter entry between 11 and 12, they found that it would not open on account of the damage received by the explosion. They then started back up entry 12 and upon reaching the second break-through between 11 and 12, they knocked a board off the stopping and passed through on to 11 entry, down this entry on to the main one, and thence to the outside. Claughton not being with them, a

searching party was immediately formed to look for him, and about one hour and a half after, they found his body on the main entry, some two hundred and fifty feet from the entrance to No. 12 entry. Henry Clayburn, a miner, in his evidence before the coroner's jury, said that he and the deceased were close together when they reached the door, and also when they left it, and that the deceased was laboring under great excitement during the time he was with him, and it is supposed that in the excitement he (the deceased) got bewildered and did not know which way he was going. As Clayburn started up entry 12 he called to Claughton two or three times, but received no answer. George W. Mountain, fire boss of the mine testified that he examined the main entry and return and also some 20 yards from the face of the latter about 3.15 A. M., but found no indication of fire-damp in those entries, or in any part of the mine and had not for some months previous to the explosion. The record book does not shown any record of gas having been found in the mine since February 27, 1896. In examining the place where the explosion occurred, I could not find any indication of marks on either entry to show that they had been examined or that they had been marked as required by the act relating to bituminous coal mines, although the fire boss made a positive statement before the coroner's jury that he made the marks. There was one fact brought out in this connection in regard to the marking of the places after they were examined, and that was that the rooms had not been marked for some time previous to the explosion. On a visit to this mine a short time previous to the explosion, I was informed that the rooms were not being marked, and I gave positive orders that the act be complied with in this particular.

A copy of the verdict of the coroner's jury is made a part of this report:

Allegheny county, ss:

An inquisition, indented, taken at Brownsdale, Forward township, in the county of Allegheny, on the 15th day of May, 1896, before me Heber McDowell, coroner of the county aforesaid, upon the view of the body of George W. Claughton, then and there lying dead, upon the oaths and solemn affirmations of Henderson Martin, Thomas Waddington, George W. Smith, Alex. Collins, James Aheson, and W. H. Ferree, good and lawful men of the county aforesaid, who, being sworn and affirmed and charged to inquire, on the part of the Commonwealth, when, where and how, and after what manner, the said, George W. Claughton came to his death, do say, upon their oaths and affirmations aforesaid, that the said George W. Claughton, aged about 35 years, a widower residing in Monongahela City, came to his death suddenly about 9 o'clock A. M. Thursday, May 14, 1896, from suffocation caused by an explosion of fire damp in the Mongah

mines, Forward township. From the evidence, the jury find that his death was due to the above cause, but censure George Mountain, fire boss, for failing to properly mark the various rooms visited, in conformity with the mining laws relating to the duties of fire bosses.

And so the jurors aforesaid, upon their oaths or affirmations as aforesaid, say that the aforesaid George W. Claughton for the cause aforesaid, in the manner and form aforesaid, came to his death, and not otherwise.

In witness whereof, as well of the aforesaid coroner, we, the jurors have hereunto put our hands and seals, on the day and year and at the place above mentioned.

(Seal) A. S. MORELAND,
Deputy Coroner.

Henderson Martin, Thomas Waddington, George W. Smith, Alex. Collins, James Acheson, W. H. Ferree, Jurors.

Dunlaps Creek Mines.

Dunlap and Snowden.—The above are small openings, and do not employ a sufficient number of persons to come under the jurisdiction of this office.

Greene County Mines.

A few small mines are opened in this county. They do not give employment to a sufficient number of persons for the act to apply to them.

Mines on the Belle Vernon Division of the Pittsburg and Lake Erie Railroad.

Arnold.—At each examination of this mine, I found it in a satisfactory condition.

During the year they have installed a complete electric mining plant, also a ventilating fan of the Guibal pattern. This fan is twenty-five feet in diameter, with 10-foot blades, each nine feet wide. The entire structure is of steel and brick throughout, and is absolutely fireproof. The fan shaft is of hammered steel and carries three cast iron spiders, which drive the blades. It is supported at each end by two heavy "A" frames that contain the pillow blocks. Each of these frames are imbedded in the masonry and are in no way connected to the building. This is a special feature of this fan, and is designed to stop the motion of the machinery from being communicated to the building, which it effectually does. The engine is of the "Tangyebed type." The cylinder dimensions are 14 inches in diameter and 24-inch stroke; fan is driven from the engine by a fifteen inch five ply belt which runs over a six foot and a four foot pulley, which gives a ratio of fan speed to engine speed of 2 to 3. The machinery and entire structure were erected by the Robinson Machine Co., of Monongahela, Pa.

North Webster.—General condition of ventilation and drainage on last visit was fair.

Manown.—On the date of my last examination of this mine, I found it, as regards ventilation in fair condition, but the drainage on the traveling way required improvement. This part of the mine is very difficult to keep in proper order owing to a squeeze which affects it. During the year, in driving some of the entries at the extreme end of the coal field, they entered a swamp which made the hauling by mules impracticable. To overcome this, Mr. Hornicle, the superintendent, had a small wire rope haulage put in, running the engines by compressed air. I am informed that it is working in a very satisfactory manner.

Shepplar.—When last visited, the ventilation and drainage in parts of the mine required improvement.

Cleveland.—On the date of my last visit the ventilation and drainage required improvement.

Mines on the Pittsburg and Wheeling Division of the B & O. R. R.

Snowden.—On my last examination of this mine, I found it in fair condition. Volume of air at outlet near ventilating fan, 35,000 cubic feet. Persons employed inside, 189.

Hackett.—When last visited, the ventilation and drainage in parts of the mine was in an unsatisfactory condition. I suggested that the causes of complaint should receive immediate attention so as to comply with the act relating to bituminous coal mines.

Eclipse.—General condition of ventilation fair. Drainage in parts of the mine required improvement.

Germania.—General condition of ventilation and drainage fair.

Gastonville No. 1.—In parts of this mine the ventilation is in a very unsatisfactory condition. The drainage is also a cause of complaint. The same can be said of Gastonville No. 2. Neither of these mines need be in this condition if a proper effort is made in matter of details. The attention of the management having been called to the condition of their mines, the promise was given that they would remove the cause for complaint.

Nottingham.—Ventilation and drainage in parts of the mine were in an unsatisfactory condition.

Anderson.—In operation 154 days during the year. On the date of my last visit the ventilation in parts of the mine required improvement. The drainage also needed attention.

Fatal Accidents.

In Blyth mine, January 4, Oliver Shontz, American, a driver, was so badly injured by being caught between the car and coal pillar that he died some sixty-two hours afterwards. The accident occurred on the main heading near a butt heading known as No. 13.

Shontz had a trip of two cars and was moving them toward the outside. While the cars were in motion he put two sprags in and then attempted to jump on the hitching, but unfortunately there was not sufficient room between the car and the coal pillar at this point to allow him to do so.

In investigating the cause of this accident, I found that the proper place for the spragging to be done was directly opposite to where the deceased used the sprags. There was ample room for the purpose, and he should not have been on the side where he received his injuries. Shontz was a single man, 19 years of age.

William Cook, English, a miner, aged 53 years, was fatally injured in Charleroi mine, January 15, by a fall of slate and lived some four hours after being injured. This accident occurred in room 1, entry 11. On examining the place where the deceased received his injuries, I am of the opinion that it was an oversight on the part of Cook in not taking the slate down or making it secure by timbering, for from the appearance of the room where the slate had been exposed, it must have given evidence of being unsafe before it fell, as it had an open end on one side, and a slip cut it off on the other. This left it without support except that which it received from the side resting on the coal face. At the time of the accident the deceased was "bearing in" immediately under the aforesaid slate, when it fell on him, resulting as above. Charles Hearn, who worked with the deceased, informs the writer that they had sounded the slate a short time previous to its falling and considered it safe. Cook left a wife and five children.

Joseph Roche, French, a miner, was fatally injured in Allequippa mine by a fall of slate on January 20. The deceased and Peter Nevan were working together in room 43, entry 9. When the accident occurred the deceased was "bearing-in" on the corner next room 42, and from the appearance of the place and from the evidence produced, this accident would not have been to record if ordinary care had been exercised. Roche was a single man, 25 years of age.

On January 29, Ozeum Latcham, English, a miner, was fatally injured in room 8, entry 5, Anchor mine, by a fall of slate. This unfortunate man lost his life while drawing posts. The deceased and another miner, Thomas Wilde, worked together, but the latter was not at work on the day of the accident. It seems that the room was about to be vacated by the above persons, and to clean it up Latcham started to take out posts from under the slate, when a piece of slate which measured six feet long, three feet wide and some ten inches thick fell, with the result as above stated. After a careful investigation of all the circumstances connected with this accident, it seemed to the writer that it was in a great measure due to over anxiousness on the part of the deceased to have the room in condi-

tion to be occupied by other parties. Latcham was a single man, aged 29 years.

At the Camden mine, on January 29, David Evans, American, a trapper, aged 17 years, was fatally injured by being caught between empty cars. This accident occurred on No. 2 face entry, near the entrance to right and left No. 3 butts. Previous to the accident, the deceased signalled to a driver who was moving his full trip from left No. 3 to the double parting. By this time another driver having an empty trip was standing in a "cross-over" nearby waiting for a signal to move on to No. 2 face. When Evans gave the signal to the driver on left No. 3, the other driver, thinking it was for him, started into the face entry with his trip. Evans realizing that there was a misunderstanding relative to the signal became excited and ran toward the empty trip. On reaching it, he jumped into the first car and out of this into the second and in attempting to get into the third he fell between them. At the place where this accident occurred there was plenty of room to pass the trips, and it was unnecessary for the deceased to have jumped into the empty cars to save himself.

On February 11, Louis Pellagrin, Italian, miner, aged 28 years and single, was fatally injured by a fall of slate in Blyth mine. Pellagrin and Terreli Craft worked together in the main air course which was driven parallel to the main entry. Pellagrin, at the time of the accident, was "bearing-in" and Craft was loading a car. Previous to the falling of the slate, they had about eight feet up; under this and in the middle of the entry, two posts were set; this left a space of four feet on the right unsupported. From this part a piece of slate six feet long, two feet ten inches wide and about eight inches thick, fell, resulting as above.

Patrick Kennark, Irish, a miner, aged 64 years and single, was injured February 22, in Apollo mine, by a fall of slate and died on March 2. As it was not supposed that the injuries would prove fatal, the room continued to be worked, and as a consequence, when I visited the place it was materially changed from what it was at the time of the accident, and as a result all the information I had in regard to it is what I received from Anthony Collins, who worked with the deceased. He informed the writer that a short time previous to the accident, he suggested that the slate be taken down, as it was loose, but Kennark made answer: "Wait until to-morrow." Comment is unnecessary.

An accident occurred in Walton's Upper mine on February 24th, which resulted in the death of Michael Gibbons, an Irish miner, aged 54 years. Gibbons was found dead in his working place under a large fall of roof about 6.30 P. M. It is not known when Gibbons was caught, as he was last seen alive about 11 A. M. Jacob Bride,

a fellow miner, who worked near the deceased's room said that he heard a fall about 2.30 P. M., and about half an hour later a driver called to deceased to come and get a car and on receiving no answer, he passed on up the entry, thinking Gibbons was in another room in which he sometimes worked. When Gibbons did not reach home at the usual time, a search was made, which resulted in the finding of his body as stated above. On examining the place on the following day, I found that the deceased had been working in a rib; on the left side of the rib, and parallel with the adjoining room was a piece of roof which measured 12 feet long, 4 feet thick and averaging 3 feet wide; under this, I am informed, the body was found. From the position of the body and from other circumstances connected therewith, it is supposed that he was getting down roof coal when the roof fell. Gibbons was an old, experienced miner, but in this case, in regard to the safety of the roof, his judgment was in error.

Joseph Blackburn, English, a miner, aged 62 years, at Vesta mine No. 1, March 4th, received a broken leg by a fall of slate; he was also injured about the head and loins. Died in about one hour. The physician in attendance informed the writer that the deceased died from heart disease superinduced by the shock. Joseph Luker, who worked with Blackburn, said they fired a shot in the coal a short time previous to Blackburn receiving his injuries, and while loading a car from it, a piece of slate fell, and he called to the deceased to get out of the way but instead of doing so, he (deceased) asked Luker what he had said and he again told him to get out of the way, but before he could do so, another piece, which measured six feet long, two feet wide and ten inches thick, fell, with the above result. I am informed that Blackburn was an experienced miner, but was somewhat hard of hearing and this accounts for his not heeding the warning given by Luker. Blackburn left a wife and six children. The youngest being 12 years of age.

James E. Wilson, American, driver, 25 years of age, and single, at Walton's Upper mine, April 3, was fatally injured by being struck at the double parting by the empty dilly trip, while attempting to take off the "lead" line while the cars were in motion. A short time previous to his death, he said in explanation of his injury, that "in trying to get on the front end of the first car in the trip to take off the line, my foot slipped from the bumper, and before I could recover myself, the cars caught me."

On April 16, in the Vigilant mine, Andrew Poppon, Slavish, a miner, aged 21 years and single, was instantly killed by a fall of coal and slate. When the coal and slate fell, the deceased was "bearing-in" on the end of a butt, while John Simon, who worked with him, was at work on the rib side. A short time previous to the accident a middle shot had been fired which "jumped" quite a distance into the butt under which Poppon was working. A sprag had been used,

but it was of little value as a safeguard. An examination of the place showed that Poppon lost his life through an oversight.

Michael Greeley, Irish, a miner, was fatally injured April 21st by a fall of shale in room 2, entry 7, Anchor mine. Lived some three hours after the accident. On investigation it was found that the shale, which fell on Greeley, had a slip on the outer edge and toward the face of the room, which nearly cut it off from any support except that of adhesion. His brother, who worked with him, informed the writer that they sounded the shale about ten minutes before it fell and thought it all right. Greeley was a single man, aged 27 years.

At Champion mine, April 30, William Bierly, American, driver, was instantly killed by being caught between an empty dilly trip and a coal pillar, in trying to get on the hitching between the first and second car, while the trip was in motion. Along the coal pillar at side of double parting there are at intervals, holes where the mules find shelter while the dilly trips are being moved. Immediately before the deceased was caught, he was standing in one of these holes and as the trip was passing he attempted to get on, with the result as above stated. Sherman Conaway, a driver, informed the writer that he saw Brierly pass over the dilly line and enter the shelter hole, and also saw him try to get between the cars. It is not known what Brierly was doing on this part of the double parting, for his work did not require him to be there. Brierly was 21 years of age and single.

Archibald Dwyer, American, a machine helper, 21 years old and single, was instantly killed by a fall of slate in Knob mine on May 7th. This accident occurred in a "double header" known as Nos. 5 and 6, entry 20. The deceased and James Smith had charge of a mining machine, the former keeping it clear of slack and the other attending to the "running." While at this work a piece of slate which measured 38 inches long, 26 inches wide and 12 inches thick fell and resulted as above stated.

Louis Novack, Italian, a miner, aged 23 years and single, was instantly killed by a fall of coal, in Vigilant mine, on May 11th. On examining the place where the accident occurred, I found that a slate fault had entered the coal immediately under the over-clay having an angle of about 15 degrees with the roof, and loosing itself in the bottom some 22 feet distant. As the surface where it passed through the coal was very smooth, it was very dangerous. Under part of this the deceased was "bearing-in" when about 75 bushels of coal fell, resulting as stated above. On further investigation I learned that the deceased, his brother Charles, and Michael Bell (his brother-in-law), worked together, and at the time the coal fell the latter was "bearing-in" next to the rib. The Novacks had only been in the mine a few days, and had no practical knowledge of the danger incident to the mining of coal. Bell, however, claimed

to be a practical miner and got employment for the Brothers Novack with the understanding that he would work with them. But it seemed to the writer that he was very careful of his own safety, judging from the condition of the room, for he was working in a place which was practically safe, and allowed the deceased to work in a place where his safety was not assured. Bell was cautioned by the fire boss as to the condition of the room some hours previous to the accident, but if any change at all was made it was in such a way as to increase the danger. I questioned Bell as to why he did not take the coal down or make it secure, and he answered that he thought it was all right.

George W. Claughton, American, a miner, was killed in Mongah mine, May 14. For particulars see description of mine in another part of report.

On May 29th, in Eclipse (railroad) mine Jakel Jurwick, Italian, a filler after machines, was instantly killed by a fall of slate. Deceased and Antonio Mullesk worked together and at the time of the accident were loading a car. The slate which fell on Jurwick measured 10 feet long, 5 feet 10 inches wide and 11 inches thick. On examination of the place I found that slips were running on either side of the slate with the angle of fracture against safety. A short time previous to the falling of the slate, one of the roadsmen visited the room, where these men were at work, and informed them that the slate was loose and that they should either post it or take it down, but it seems that they did not do either. Jurwick left a wife and one child.

In Cleveland mine on June 1st, Natalia Ross, Italian, a filler after machine, was instantly killed by a fall of slate. This accident occurred about 2 o'clock P. M., in room 21, entry 15. Subsequent investigation showed that shale was very general in this room, and also in the entry that there was some trouble from slips. The shale that fell on Ross measured 9 feet long, and was of a triangular shape, the widest part being 8 feet, and about 19 inches thick. Ross left a wife and five children.

Michael Barabas and Louis De Cristi were killed by an explosion of gas in Washington mine on June 29th. For particulars see another part of this report.

Nicholas Malice, Italian, a filler after machines, aged 22 years, was injured in Vesta No. 1 mine on June 29th, while taking down slate, and died July 20th, leaving a wife and two children.

James Molaney, Irish, a driver, 22 years of age and single, was fatally injured in Anderson mine on June 29th, by being caught between the front car of his trip and corner of room pillar. He lived three days after. On investigation into the cause of this accident I learned that the deceased had a trip of five empty cars which he

was moving up entry 18; when he reached the entrance of room 1, he jumped from the front car to get some sprags which he had left there, but unfortunately just as he jumped, the front car entered the "turnout" throwing the car from the track and before he could get out of the way, it struck him, resulting as above stated.

Philip Brazoskie, a Russian Pole, a miner, was instantly killed on July 2d, in Snowden mine, by a fall of coal. The deceased and his partner, John Stotke, worked in room 31, entry 2, and at the time the coal fell the deceased was engaged "bearing-in" on a butt and the latter in the "tight." About five minutes before the coal fell, a fellow miner, John Butcherer, who worked in the adjoining room, visited Brazoskie's room and after examining the coal said it was loose and advised them to take it down, but the answer they gave was: "It not loose—it take powder to bring it down." The deceased had been in a mine three weeks, but his partner, Stotke, had an experience of four years.

At Clipper mine, on July 9th, Samuel E. Downer, American, miner, 27 years of age, was fatally injured by a fall of slate. The deceased was loading a car when the slate fell. This slate was nearly in the form of a circle having a diameter of three feet on the upper side and four feet seven inches on the lower side. This fell out of the middle of the road head. In examining it I found that slips formed nearly a complete circle which caused it to detach itself from the main body of slate, leaving a cavity in the top in the shape of what is known in mining parlance as a "pot hole." Downer left a child 6 years of age.

In a "cross-over" at Catsburg mine, August 10th, James R. Johnson, American, driver, aged 32 years, was fatally injured by being caught between car and coal pillar. When the deceased entered the cross-over, he was in the rear of his trip but on approaching the double parting which was driven at right angles to the cross-over, he made an attempt to pass between the car and a coal pillar, but there was not sufficient room to permit it, but there was ample room for nearly the entire length of the cross-over for persons to pass. Just at the corner of the pillar between the double parting and the cross-over, there was a space of about eleven inches only and this was the place where deceased was caught. On investigation I discovered that the roof over the double parting was giving trouble, and to prevent as far as possible any falls from taking place, a great amount of timbering was done. In addition to this, a few posts were set in the entrance to the cross-over in such a way as to cause the road to be thrown very close to the corner of the pillar, and to prevent any accident from this enforced narrowing of the cross-over at this point, orders were issued for the drivers who passed through this part of the workings, to keep in the rear of their trips. Johnson, upon being

questioned as to how he came to be caught, said that when he tried to pass the car, his clothes caught and before he could recover himself he was dragged into the narrow place and injured as stated. Johnson left a wife and two children.

Michael Caufield, Irish, a filler after machines, was fatally injured in Catsburg mine on August 17, by a fall of coal and slate. He lived some five hours after being injured. Deceased, James Timm and John Primrose, worked together in a "double header" room known as Nos. 16 and 17, on entry 32. The following statement relative to this accident was made to the writer by John Primrose, viz: "Just previous to the accident we had fired a shot, and on sounding the slate we considered it somewhat loose, but thought we could fill the coal out from under it in safety." The deceased requested Primrose to place his hand on the face of the slate while he would shovel the coal out from under it, so that Timm could throw it into the car. Primrose said that the object in placing his hand on the slate was to give Caufield warning if the slate showed any indication of falling. He also said that he felt it give and called to Caufield to "look out," but it was too late, as the slate caught him before he could get out of the way. Timm's evidence relative to this accident was about the same as that given by Primrose. This habit of laying hands on coal or slate as a precautionary measure, while another person is working below, should never be practiced, as it is without the merit claimed for it. Numerous cases can be cited where injury and loss of life have resulted. Caufield was a single man, 21 years of age.

As a result of falling slate, Angelo Presenello, Italian, filler after machines, lost his life in room 53, entry 22, Watson mine, on August 24th. The time of the accident is not definitely known, but as one of the drivers gave him a wagon about 4.35 P. M., it is supposed that the accident occurred about 5 o'clock, as he had almost filled this car. About 7 o'clock on the same evening, the fire boss, William Spence, was notified that Presenello had not reached home yet, and Spence, in company with Samuel Chester, entered the mine to ascertain the cause of his absence. On reaching the face of room 52, entry 28, they found his body under a piece of slate which had fallen. On examining the place where the accident occurred, I found that the slate which fell, was, on an average, 4 feet long, 3 feet 6 inches wide, and 9 inches thick, and from the position of the slips in the slate I am of the opinion that it gave evidence of having been unsafe before it fell. Deceased was 43 years of age and left a wife but no children.

Wessel Gibo, employed in Manown mine as a filler after machines, was on August 25th so seriously injured by a fall of slate that he lived but two hours. On investigation, I found that John Lisock and Gibo had been working together in room 37, entry 22. Subsequent investigation of the place where the accident occurred showed that

no provisions had been made by these men for their safety. When the slate caught the deceased he was "trimming" the rib side, while Lisock was loading a car. The latter informed the writer that he requested Gibo to take the slate down, as it was dangerous, but he answered "It is all right, this room belongs to me and I am boss." Gibo was 24 years of age, married, but I am not informed whether or not he left any children. The coroner's jury rendered a verdict that he came to his death through his own negligence.

John Bozin, Hungarian, a filler after machines, was fatally injured in Catsburg mine, on August 28, by a fall of slate, and lived some twelve hours after the accident. Deceased and his partner, John Tallway, worked in a "double header," room Nos. 41 and 42, in entry 32. At the time of the accident Bozin was "knocking coal" and Tallway loading a car. On examining the place where this accident occurred the whole surroundings showed evidence that they had very little knowledge of the mining of coal. In questioning Tallway, after making the examination, he informed me that his experience in coal mines covered a period of four days, while that of the deceased was two months. Bozin left a wife and six children.

Robert Sisley, was fatally injured on September 3d by an explosion of gas in Tremont mine. For a more extended statement see description of this mine in another part of report.

On September 5, George Bobseback, Austrian, a miner, aged 29 years, was fatally injured in Acme mine, while taking down slate. Deceased left a wife and one child.

John Earish, Hungarian, a miner, was instantly killed in Acme mine on September 9th, while taking down slate. He was 34 years of age and left a wife and two children.

Peter Decapto, Italian, a miner, was fatally injured by a fall of slate in Charleroi mine on October 2 and died about three hours after. This accident occurred in room 1, entry 12, while the deceased was "knocking coal." A short time previous to Decapto receiving his injuries, his partner, Lingis Cigrisosa, told Decapto to set a post under the slate as it was loose, but he answered that he would "knock the coal," "load a car" and then he would take the slate down and for him (Cigrososa) to go and "bear-in" on the butt as it was safe there." I was informed that Decapto had worked in a mine for some six months and that Cigrisosas' experience in the same work was four days. Deceased left a wife but no children.

Michael Todd, Slavish, a filler after machines, was fatally injured in Knob mine, October 12 by a fall of slate. This accident occurred in room 13, entry 20. Subsequent investigation showed that the deceased and John Fatal worked together and previous to Todd receiving his injuries, they had fired a shot in the "tight" but it did not knock all of the coal, so after filling three cars out of the "tight,"

Todd commenced to take down coal that the shot failed to throw, and while thus engaged the slate fell with the result as above stated. Fatal informed the writer that they had intended to set a post after they loaded the car on which they were at work when the slate fell. Todd had been at work in the mine only four days, and I am not informed whether he was ever in any other mine. Fatal had worked in another coal field for a number of years, but the difference between it and this part of the district is so marked that it can be said that his experience was somewhat limited. Todd left a wife and three children.

John Lonca, Slavish, a filler after machines, was instantly killed in Little Redstone mine on October 28, by a fall of slate. When the accident occurred the deceased was filling a car near the road head. The slate which fell measured 5 feet long on one side and 4 feet on the other and was 2 feet wide. The room was in fairly good condition, and I was informed that the deceased was a very careful workman. Lonca was 22 years of age and single.

John Parabeck, Slavish, a miner, aged 45 years, was fatally injured by a fall of slate in Acme mine on November 2d. Deceased and John Landish worked together, and immediately before the slate fell they were trying to set a post under it. While thus engaged Landish told Parabeck that the slate was going to fall and at the same time jumped back toward the gob. Parabeck, however, made for the face of the room and was directly under the slate when it fell. I measured the slate and found it to be 6 feet long, 4 feet wide and 12 inches thick. A slip extended around the entire edge, except where it rested on the face. Deceased left a wife and two children.

Albert Pasto, a Finlander, miner, aged 33 years, was fatally injured in Beaumont mine, November 9th, by a fall of coal, and died in hospital, November 10th. He left a wife and three children.

Michael Orless, Austrian, miner, aged 28 years, and single, was instantly killed in Little Alps mine by a fall of coal and slate on November 11th. From the appearance of the room where the accident occurred, and from the evidence of the deceased's partner, Frank Bottago, it seemed that it was caused by an oversight on their part.

John Leonard, American, dayhand, 78 years of age, was instantly killed by being caught by the dilly trip in Tremont mine, on November 12th. It is not definitely known at what point the accident occurred, but as the deceased was seen by two miners before the dilly had left the double parting, working directly opposite a shelter hole, and the dilly trip rider having seen him in the shelter hole when he passed with an empty trip, it is presumed that he was struck while working at a roller at this point, as the pick and hatchet that he had been using were lying in the middle of the track where the two men

saw him as they passed. The body was found about 21 feet away from the above mentioned shelter hole, and on the opposite side. Leonard had worked in and about this mine for a period of forty years and had been attending the ventilating furnace for some time, but as the ventilator had been replaced by a fan, he was thrown out of employment and not wishing to be idle, he asked for some other kind of work. He was then given the rollers on the dilly road to attend to, with the injunction (so the superintendent informed the writer) to take no risk. Leonard left a wife and three children.

Joseph Bobeck, Hungarian, a miner, aged 46 years, was fatally injured while taking down slate in Acme mine on November 18th, and died four days after. Deceased left a wife and six children.

Michael Heap, Russian Pole, a miner, was instantly killed in room 34, entry 4, Snowdon mine, by a fall of slate, on November 27th. Deceased and Michael Cutrick worked together. Heap, at the time of the accident was knocking coal from under the slate, which had been left on from a shot which had been fired previously, and Cutrick in the mean time had a car brought to the face and the deceased turned around to help with the car, when a piece of slate in the form of a triangle fell, the extreme length being six feet, the base three feet and about eight inches thick, resulting as above. The slate showed a slip running parallel with the room pillar. On one side a break appeared. In addition a small "horseback" was located immediately above where the slate fell out, which added to the danger connected with the slate. Heap left a wife and one child.

Victor Guskey, a miner, aged 29 years, and single, was instantly killed in Apollo mine on December 11th, by a fall of coal and slate. The deceased and his brother worked together in room 30, entry 2, and at the time of the accident the former was "bearing-in." The latter had been engaged in the work near by immediately before the slate fell, but fortunately he went to get a drill to start a hole, and consequently escaped the fate of his brother. On examining the place where the accident occurred, I found that they had had a "butt" on, some 13 feet long and three and one-half feet deep. The main coal face showed a squeeze and to make matters worse, a shot which had been previously put in, opposite to the road head had "jumped" back on the aforesaid butt, making it very dangerous to work under. They realized that it was somewhat loose, for the survivor informed the writer that they put a brace to the face of the butt next to the end, and thought it was all right. From examination of the scene of this fatality and upon investigation, I am of the opinion that it was caused by an oversight on their part. Guskey was a native of Finland.

James Hamm, American, a miner, was fatally injured in Rostraver mine, by a fall of slate on December 12th. The deceased was filling

coal out of the corner of the room when the slate fell. Just previous to its falling, his partner, Henry Hill, told him to take the slate down, but he (the deceased) thought it was not dangerous and failed to comply.

Peter Truts, Italian, miner, aged 22 years, and single, was instantly killed by being caught by the dilly trip of full cars in Cleveland mine. This accident occurred about 7.30 A. M., December 24th. The body of Truts was terribly mangled, having been dragged a distance of 887 feet by the trip. When the deceased was on his way into the mine, he was met by Albert Evans, one of the drivers, who told him that the dilly was coming, but Truts made no answer and passed on. He was then (so Evans informed the writer), watching the movement of the dilly line. From the position of the contents of the dinner bucket carried by Truts and also from the location of a pick that was near it, it is supposed that he was caught between two shelter holes The space between rail and coal pillar on the opposite side from the shelter holes is from two and one-half to three feet.

Table No. 1.—Showing location, etc., of collieries in the First Bituminous Mine District.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Postoffice Address.
Arnold,	Johnson Coal Mining Company,	Fayette,	J. H. Moorefield,	Fayette City.
Apollo,	C. Jutte & Co.,	Fayette,	David B. Foster,	Fayette City.
Albany,	Snowden & Gould,	Fayette,	William Seddon,	Brownsville.
Anchor	A. & J. Leonard	Fayette,	John Leonard	Roscoe.
Acme,	Stockdale Coal Co.	Washington,	Charles Braznell	Monarch.
Allen,	Allen Coal Co.,	Washington,	Charles Braznell	Monarch.
Anderson,	Hon. D. M. Anderson,	Washington,	Robert Howey,	Venetia.
Abe Hays,	Abe Hays Coal Co.,	Washington,		
Allequippa,	Bailey, Wilson & Co.,	Allegheny,	W. W. Wilson,	Camden.
Amity,	S. S. Crump & Co.,	Allegheny,	S. S. Crump,	Dravosburg.
Bunola,	O'Neil & Peterson,	Allegheny,	G. W. Peterson,	Bunola.
Banner,	J. M. Risher Coal Co.,	Washington,	Robert P. Risher,	Shire Oaks.
Blyth,	Blyth Coal Co.,	Washington,	T. C. Connell,	Speers.
Black Diamond,	W. H. Brown's Sons,	Washington,	James Leutitt	Monongahela
Beaumont,	Beaumont Coal Co.,	Washington,	A. G. Leonard,	West Brownsville
Buffalo,	Courtney Coal Co.,	Washington,	Thomas Hall,	Courtney.
Beaver,	Beaver Coal Co.,	Washington,	Arthur Hawthorne,	California.
Cincinnati,	C. Jutte & Co.,	Washington,	Samuel Roberts,	Courtney.
Cliff,	I. M. Risher Coal Co.,	Washington,	Robert P. Risher	Shire Oaks.
Coal Bluff	I. M. Risher Coal Co.,	Washington,	William Smith,	Coal Bluffs
Catsburg,	Catsburg Coal Co., Limited,	Washington,	Harry P. Jones,	Monongahela
Coal Centre	P. J. Forsyth & Co.,	Washington,	P. J. Forsyth,	Coal Centre.
Clipper,	Clipper Coal Co.,	Washington,	T. S. Briggs,	Monarch
Courtney,	Mingo Gas Coal Co.,	Washington,	Thomas Watson,	Courtney.
Caledonia	T. J. Wood,	Washington,	George Roberts,	Elco.
Champion,	T. J. Wood,	Washington,	George Roberts,	Elco.
Charleroi,	Charleroi Coal Co.,	Washington,	Jesse K. Johnston,	Charleroi.
Crescent,	California Coal Co.,	Washington,	Thomas Underwood,	California.
Camden,	George Lysle Sons,	Allegheny,	B. M. Thomas,	Camden.
Climax,	Pittsburg Coal Co.,	Fayette,	Samuel Smith,	Brownsville
Chamouni	Tide Coal Co.,	Fayette,	William Fishburn,	Brownsville.
Crowthers	Jonas Crowthers,	Fayette,	Lee M. Crowthers,	Fredericktown
Cedar Hill	Jonas Crowthers,	Fayette,		
Cleveland	J. H. Somers Fuel Co.,	Fayette,	W. P. Bates,	Belle Vernon.
Christina,	Foster Coal Co.,	Allegheny,	Chas. Goldstrom,	Coal Valley.
Dunlap,	Dunlap Coal Co.,	Fayette,	Moses Ramage,	Brownsville
Eclipse,	Eclipse Coal Co.,	Washington	D. B. Blackburn,	Elco.
Eclipse Railroad	Osborne, Seager & Co.,	Washington	Phil S. Stambaugh	Venetia.
Ella,	Ella Coal Co.,	Westmoreland	A. E. Speakman,	Sunny Side
Fayette City	Samuel O'Neil, Attorney	Fayette,	James O'Neil,	Fayette City
Fox,	Fox Coal Co.,	Washington,	Townsend H. Thackstone,	Centre.
Faweett,	Equitable Coal Co., Limited	Westmoreland,	Joseph W. Blower	Webster.
Fulton,	George Doyle,	Allegheny,	George Doyle,	Jones Station

Table No. 1—Continued.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Postoffice Address.
Fidelity,	Fidelity Coal Co.,	Washington,	Henry Kinlock,	Roscoe
Germania,	Henry Florsheim,	Washington,	S. Florsheim,	Finleyville.
Gastonville,	Pittsburg & Chicago Gas Coal Co.,	Washington,	James W. Van Eman,	Gastonville.
Hackett,	Boyle Bros. Coal Co.,	Washington,	J. E. Boyle,	Hackett.
Hilldale,	Hilldale Coal Co.,	Washington,	Ewen Beedle,	Jones Station.
Ivill,	James Jones,	Washington,	W. I. Jones,	Monongahela.
Knob,	Knob Coal Co.,	Washington,	S. H. Pearsall,	West Brownsville.
Little Alps,	Bradford & Co.,	Fayette,	Charles Bradford,	Monarch.
Little Redstone,	Little Redstone Coal Co.,	Fayette,	J. T. Jones,	Fayette City.
Milesville,	Robert Jenkins,	Allegheny,	Robert Jenkins,	Milesville.
Manown,	Youghiogheny Gas Coal Co.,	Allegheny,	Lute Hornicle,	Manown.
Mongah,	W. H. Brown Sons,	Allegheny,	James Louttit,	Monongahela.
North Webster,	Webster Coal Co.,	Westmoreland,	C. F. Wagoner,	Webster.
Nottingham,	Henry Florsheim,	Washington,	S. Florsheim,	Finleyville.
New Eagle,	New Eagle Coal Co.,	Washington,	John McMinimy,	New Eagle.
Old Eagle	W. H. Brown Sons,	Allegheny,	James Louttitt,	Monongahela.
Rostraver,	Rostraver Coal Co.,	Westmoreland,	James Black,	Lock No. 4.
Rock Run,	Sarah Snodgrass,	Allegheny,	J. R. Snodgrass,	Camden.
Snowdon,	Pittsburg & Chicago Gas Coal Co.,	Allegheny,	James H. Van Eman,	Gastonville.
Stonesburg,	Stonesburg Coal Co.,	Allegheny,		
Snow Hill,	Alps Coal Co.,	Fayette,	Joseph Underwood,	Roscoe.
Stony Hill,	John H. Dixon,	Fayette,	John H. Dixon,	California.
Shepplar,	Shepplar Gas Coal Co.,	Westmoreland,	William Young,	Belle Vernon.
Stockdale,	John Crombie,	Washington,	John Crombie,	Webster.
Tremont,	John A. Wood & Son,	Fayette,	S. B. Graham,	Belle Vernon.
Umpire,	C. L. Snowden & Co.,	Fayette,	John Simpson,	Brownsville.
Vigilant,	California Coal Co.,	Washington,	John A. Powell,	California.
Vesta No. 1,	Vesta Coal Co.,	Washington,	R. B. Drum,	California.
Vesta No. 2,	Vesta Coal Co.,	Washington,	R. B. Drum,	California.
Vesta No. 3,	Vesta Coal Co.,	Washington,	R. B. Drum,	California.
Walton, Upper,	Jos. Walton & Co.,	Allegheny,	W. A. Finley,	West Elizabeth
Walton, Lower,	Jos. Walton & Co.,	Allegheny,		
Watson,	Watson Mining and Manufacturing Co.,	Allegheny,	Charles Rankin,	Sunny Side.
Washington,	W. H. Flint,	Fayette,	James De Shields,	Monarch.
Wright's Bar	Wright's Bar Coal Co.,	Washington,	R. C. Campbell,	California.

TABLE No. 2.—Gives the total number of tons of coal mined in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder used, etc., in the First Bituminous Mining District, for the year ending December 31, 1896.

Names of Collieries.	Location—County.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked	Number persons employed	Number fatal accidents	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers	Number horses and mules	Number mine locomotives
Arnold	Fayette	38,935	38,935	232	76				2	9	
Apollo	Fayette	216,998	216,998	208	235	2	3	1,600	3	10	
Albany	Fayette	107,447	107,447	200	191			460	3	10	
Anchor	Fayette	54,544	54,544	162	102	2	2	75	2	7	
Acme	Washington	141,171	141,171	160	136	4	1	500		11	
Allen	Washington	97,273	97,273	130	108		2	300		9	
Anderson	Washington	91,615	90,630	154	175	1			3	7	
Abe Hays	Washington										
Allequippa	Allegheny	122,467	122,467	149	272	1	2		1	16	
Amity	Allegheny	100,500	100,500	150	216				3	20	
Bunola	Allegheny	54,871	54,871	185	106		3	400	3	8	
Banner	Washington	41,797	41,797	97	85		1		2	8	
Blyth	Washington	213,690	213,690	252	213	1	2	1,080		11	
Black Diamond	Washington	55,900	55,480	89	221		1		1	11	
Beaumont	Washington	46,376	46,376	148	130	1	1	290	2	7	
Buffalo	Washington	34,500	34,490	115	101		2	250	1	6	
Beaver	Washington	7,600	7,600		28					2	
Cincinnati	Washington	93,719	93,719	185	209	1	2	450	2	9	
Cliff	Washington	34,527	34,527	83	91		1		1	14	
Coal Bluff	Washington	131,161	131,161	239	220				4	13	
Carsburg	Washington	218,006	218,006	280	354	3	7	400	8	14	
Coal Centre	Washington	101,136	101,136	159	203			916	1	10	
Clipper	Washington	56,487	56,487	127	75	1		270	1	8	
Courtney	Washington	22,000	22,000	219	63				2	7	
Caledonia	Washington	40,000	40,000	83	109			200		12	

Table No. 2.—Continued.

Names of Collieries.	Location. County.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.
Champion,	Washington,	128,000	128,000	175	252	1		650	1	10	
Charleroi,	Washington,	138,476	138,476	216	158	2	4	600	1	8	
Crescent,	Washington,	64,858	64,858	124	157			1,000	1	9	
Camden,	Allegheny,	94,000	94,000		223	1	3			15	
Climax,‖	Fayette,	13,000	13,000		1						
Chamouni,	Fayette,	229,813	229,813		251		1		1	12	
Crowthers,	Fayette,	19,000	19,000	200	28					2	
Cedar Hill *	Fayette,										
Cleveland,	Fayette,	240,000	240,000	217	325	2	23	1,200	2	27	
Christina,	Allegheny,	1,634	1,634	4	194				4	9	
Dunlap,‡	Fayette,										
Eclipse,	Washington,	90,000	90,000	150	153				6	14	
Eclipse (Railroad),	Washington,	190,285	190,285		171	1	5		3	15	
Ella,	Westmoreland,	142,859	142,859	251	158		9		2	11	
Fayette City,	Fayette,	324,505	324,505	282	222		2		4	16	
Fulton,‖	Allegheny,	10,000	10,000		40		1				
Fawcett,	Westmoreland,	36,914	36,914	127	72		1	100	1	10	
Fox,	Washington,	11,217	11,217		35			150		2	
Fidelity,	Washington,	61,624	61,624	187	65		1			6	
Germania,	Washington,	98,787	98,787	196	163		6		1	8	
Gastonville No. 1,	Washington,	180,583	180,583	231	122		3		1	7	
Gastonville No. 2,†	Washington,			231	179					9	
Hackett,	Washington,	64,099	64,099	195	164		1	300	1	9	
Hilldale	Washington,	49,772	49,772	150	155				2	8	
Ivill,	Washington,	127,828	127,462	220	231		1	400	3	9	
Knob,	Washington,	113,268	113,268	223	190	2	2	150	4	13	
Little Alps,	Fayette,	21,358	21,358	239	66	1	1	260	1	3	
Little Redstone,	Fayette,	133,122	133,122	166	169	1	5		4	12	
Milesville,	Allegheny,	41,587	41,337	132	91			125	3	5	

Manown,	Allegheny,	159,121	159,121	209	209	1			5	12	
Mongah,	Allegheny,	62,667	62,667	138	103	1	1		5	9	
North Webster,	Westmoreland	34,937	34,937		103					6	
Nottingham,	Washington,	62,562	62,562	225	103		3		1	9	
New Eagle,	Washington,	36,197	36,197	120	61			100	2	3	
Old Eagle,	Allegheny,	35,483	35,483	129	96			300	1	10	2
Rostraver,	Westmoreland	105,000	105,000	250	145	1	5	400	1	10	
Rock Run,	Allegheny,	28,424	28,424	114	212			10		10	
Snowden,	Allegheny,	164,570	164,570	239	297	2	5		4	11	
Stoneboro,	Allegheny,	15,000	15,000		52						1
Snow Hill,	Fayette,	98,613	98,613	159	183			400	3	8	
Stony Hill,	Fayette,	74,250	74,250	149	118				1	7	
Shoppler,	Westmoreland	65,970	65,970	250	100		2	200	2	10	
Stockdale,*	Washington,										
Tremont,	Fayette,	91,676	91,676	162	95	2	3		6	8	
Umpire,	Fayette,	51,100	51,100	121	145			250	2	9	
Vigilant,	Washington,	111,616	111,616	196	176	2	2	2,000	2	9	
Vesta No. 1,	Washington,	409,011	409,011	225	202	2		1,800	4	21	
Vesta No. 4,	Washington,										
Vesta No. 5,†	Washington,										
Walton's Upper Mine,	Allegheny,	155,197	155,197	115	441	2			4	23	2
Walton's Lower Mine,	Allegheny,				1						
Watson,	Allegheny,	44,089	36,589	113	177	1	1	250	3	10	
Washington,	Fayette,	143,474	143,474	208	173	2	1	398	3	9	
Wright's Run,	Washington,	235	235	60	53						
Total,		6,697,601	6,688,071	10,895	10,977	44	123	18,549	141	682	5

* Idle the entire year.
† Coal production in No. 1.
‡ Does not come under the jurisdiction of this office at present.
|| Estimated.

TABLE No. 3.—Showing the number of each class of employes at each colliery in the First Bituminous Mine District, during the year 1896.

Names of Collieries.	Location (County).	Number of Persons Employed Inside.							Number of Persons Employed Outside.						
		Inside foreman or mine boss.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Doorboys and helpers.	Total inside.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All company men.	Superintendent, bookkeepers and clerks.	Total outside.	Grand totals, inside and outside.
Arnold,	Fayette,	1	60	.....	1	5	1	68	1	2	.....	4	1	8	76
Apollo,	Fayette,	1	200	.....	3	10	1	215	3	1	.....	15	2	20	235
Albany,	Fayette,	1	150	12	5	8	2	178	2	2	.....	8	1	13	191
Anchor,	Fayette,	1	75	1	3	7	1	88	1	2	.....	9	2	14	102
Acme,	Washington,	1	110	7	1	7	.....	126	1	.....	.....	7	2	10	136
Allen,	Washington,	1	88	2	1	6	.....	98	1	.....	.....	7	2	10	108
Anderson,	Washington,	1	150	.....	1	5	4	161	3	2	.....	8	1	14	175
Abe Hays,*	Washington,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Allequippa,	Allegheny,	1	200	30	4	12	3	250	1	1	.....	19	1	22	272
Amity,	Allegheny,	1	160	20	3	15	2	201	1	.....	.....	12	2	15	216
Bunola,	Allegheny,	1	78	1	13	7	1	101	1	2	.....	.....	2	5	106
Banner,	Washington,	1	54	3	4	7	2	71	1	1	.....	11	1	14	85
Blyth,	Washington,	1	175	8	3	11	3	201	2	.....	.....	8	2	12	213
Black Diamond,	Washington,	1	160	6	16	10	5	198	3	2	.....	16	2	23	221
Beaumont,	Washington,	1	98	7	1	6	1	114	1	2	.....	11	2	16	130
Buffalo,	Washington,	1	80	2	3	5	.....	91	2	2	.....	5	1	10	101
Beaver,	Washington,	1	25	.....	.....	1	.....	27	.....	.....	.....	1	.....	1	28
Cincinnati,	Washington,	1	150	.....	15	8	3	177	2	2	.....	26	2	32	209
Cliff,	Washington,	1	62	2	6	10	2	83	1	1	.....	5	1	8	91
Coal Bluff,	Washington	1	141	2	35	9	2	193	6	4	.....	15	2	27	220
Catsburg,	Washington,	1	300	.....	9	12	1	326	3	6	.....	16	3	28	354
Coal Centre,	Washington	1	170	.....	4	10	4	189	2	2	.....	8	2	14	203
Clipper,	Washington,	1	57	3	1	6	.....	68	1	.....	.....	4	2	7	75

21-11-96

Table No. 3.—Continued.

Names of Collieries	Location—County.	Number of Persons Employed Inside.							Number of Persons Employed Outside.						
		Inside foreman or mine boss.	Miners.	Miners' laborers.	All company men.	Drivers and runners	Doorboys and helpers.	Total inside.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All company men.	Superintendent, bookkeepers and clerks.	Total outside.	Grand totals, inside and outside.
Walton's Lower Mine,	Allegheny,	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Watson,	Allegheny,	1	150	.....	3	7	1	161	2	4	.....	6	4	16	177
Washington,	Fayette,	1	140	10	3	7	1	161	1	2	.....	8	1	12	173
Wright's Bar,	Washington,	1	25	1	.....	2	.....	29	1	.....	.....	2	1	4	33
	Total,	72	8,165	402	399	537	116	9,091	112	122	.....	622	129	986	10,977

* Idle the entire year.
† Does not come under the jurisdiction of this office at present.
|| No report, change operation.

TABLE No. 4.—List of Fatal Accidents that occurred in and about the mines of the First Bituminous Mine District, for the year ending December 31, 1896.

Date of accident.		Name of Person.	Occupation.	Age.	Married.	Number of children.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan.	4.	Oliver Shontz,	Driver,	19	S.	....	Blyth,	Washington,	Fatally injured by having been caught between car and coal pillar.
	6.	William Cook,	Miner,	53	W.	5	Charlerol,	Washington,	Fatally injured by a fall of slate.
	20.	Joseph Roche,	Miner,	25	S.	..	Allequippa,	Allegheny,	Fatally injured by a fall of slate.
	28.	Ozeum Lanham,	Miner,	29	S.	..	Anchor,	Fayette,	Fatally injured by a fall of slate.
	29.	David Evans,	Trapper,	17	....	..	Camden,	Allegheny,	Fatally injured by having been caught between cars.
Feb.	11.	Louis Pellagrin,	Miner,	28	S.	....	Blyth,	Washington,	Fatally injured by a fall of slate.
	22.	Patrick Kenrick	Miner,	61	S.	....	Appolo,	Fayette,	Injured by a fall of slate. Died March 2d.
	24.	Michael Gibbons,	Miner,	54	S.	....	Walton's Upper,	Allegheny,	Killed by a fall of roof.
March	4.	Joseph Blackburn,	Filler after machine	62	W.	6	Vesta No. 1,	Washington,	Fatally injured by a fall of slate.
April	3.	James E. Wilson	Driver,	25	S.	..	Walton's Upper,	Allegheny,	Fatally injured by the dilly trip.
	16.	Andrew Poppon	Miner	31	S.	....	Vigilant	Washington,	Instantly killed by a fall of coal and slate.
	21.	Michael Greeley,	Miner	27	S.	....	Anchor,	Fayette,	Fatally injured by a fall of slate.
	30.	William Brierly	Driver,	21	S.	....	Champion,	Washington,	Instantly killed by the Dilly trip.
May	7.	Archibald Duvel,	Machine helper,	21	S.	....	Knob,	Washington,	Instantly killed by a fall of slate.
	11.	Louis Hovack,	Miner,	33	S.	....	Vigilant,	Washington,	Instantly killed by a fall of coal .
	14.	George W. Claughton	Miner,	35	....	4	Mungah,	Allegheny,	Died from inhaling after damp.
	29.	Jokel Jurwick,	Filler after machine,	25	W.	1	Eclipse R. R.	Washington,	Instantly killed by a fall of slate.
June	1.	Natali Ross,	Filler after machine	....	W.	5	Cleveland,	Fayette,	Instantly killed by a fall of slate.
	29.	Louis De Christi,	Miner,	....	S.	....	Washington,	Fayette,	Killed by an explosion of fire damp.
	29.	Nicholas Mallee,	Miner,	25	S.	....	Washington,	Fayette,	Killed by an explosion of fire damp.
	29.	Michael Barrabas,	Filler after machine,	....	W.	2	Vesta No. 1,	Washington,	Injured by a fall of slate. Died July 20th.
	29.	James Maloney,	Driver,	22	S.	....	Anderson,	Washington,	Fatally injured by being caught between car and coal pillar.
July	2.	Philip Brazoskie,	Miner,	....	S.	....	Snowdon,	Allegheny,	Instantly killed by a fall of coal.
	9	Samuel E Downer	Miner	47	....	1	Clipper,	Washington,	Killed by a fall of slate.

Table No. 4.—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married.	Number of children.	Name of Colliery	Location—County.	Nature and Cause of Accident
Aug. 10,	James R. Johnson,	Driver,	32	W.	2	Catsburg,	Washington,	Fatally injured by having been caught between car and coal pillar.
17,	Michael Cornfield,	Filler after machine,	21	S.	...	Catsburg,	Washington,	Fatally injured by a fall of slate
24,	Angelo Presenella,	Filler after machine,	48	W.	....	Watson.	Allegheny,	Killed by a fall of slate.
25,	Wersel Gibo,	Filler after machine,	24	W.	....	Manown.	Allegheny,	Fatally injured by a fall of slate.
28,	John Brazin,	Filler after machine,	38	W.	6	Catsburg,	Washington,	Fatally injured by a fall of slate.
Sept. 3,	Robert Sisley,	Driver,	19	S.	....	Tremont,	Fayette,	Injured by an explosion of fire damp. Died September 13.
5,	George Bobseback,	Miner,	29	W.	1	Acme,	Washington,	Fatally injured by a fall of slate.
9,	John Earish,	Miner,	34	W.	2	Acme,	Washington,	Instantly killed by a fall of slate.
Oct. 2,	Peter Decapto,	Miner,	37	W.	....	Charleroi,	Washington,	Fatally injured by a fall of slate.
12,	Michael Todd,	Filler after machine,	39	W.	3	Knob,	Washington,	Fatally injured by a fall of slate.
28,	John Sonca,	Filler after machine,	22	S.	....	Little Redstone,	Fayette,	Fatally injured by a fall of slate.
Nov. 2,	John Parobek,	Miner,	45	W.	2	Acme,	Washington,	Instantly killed by a fall of slate.
9,	Albert Pastor,	Miner,	33	W.	3	Beaumont,	Washington,	Fatally injured by a fall of coal.
11,	Michael Orless,	Miner,	28	S.	....	Little Alps,	Fayette,	Instantly killed by a fall of coal.
12,	John Leonard,	Day hand,	78	W.	3	Tremont,	Fayette,	Instantly killed by being caught by the dilly trip.
18,	Joseph Posbek,	Miner,		W.	6	Acme,	Washington,	Fatally injured by a fall of slate.
27,	Michael Heap,	Miner,		W.	1	Snowdon,	Allegheny,	Instantly killed by a fall of slate.
Dec. 11,	Victor Guskey,	Miner,	29	S.	....	Apollo,	Fayette,	Instantly killed by a fall of coal and slate.
12,	James Hamm,	Miner,		S.	....	Rostraver,	Westmoreland,	Fatally injured by a fall of slate.
24,	Peter Truts,	Miner,	22	S.	....	Cleveland,	Fayette,	Instantly killed by having been caught by the dilly trip.

TABLE No. 5.—List of Non-Fatal Accidents that occurred in and about the Mines of the First Bituminous Mine District, for the year ending December 31, 1896.

Date of Accident.		Name of Person.	Occupation.	Age.	Married.	Number of children.	Name of Colliery.	Location. County.	Nature and Cause of Accident.
Jan.	2.	William Finsee.	Miner.				Vesta No. 1.	Washington.	Injured on leg by a fall of slate.
	2.	James Carroll.	Driver.				Vesta No. 1.	Washington.	Seriously injured by a fall of slate caught between cars.
	3.	Charles Loverage	Miner.				Acme.	Washington.	Leg broken by a fall of slate.
	3.	George Crouch.	Miner.				Sheppaar.	Westmoreland.	Injured about leg and head by a fall of slate.
	11.	Jacob Squinskey	Filler after machine.	40	M.		Ella.	Westmoreland.	Two ribs broken by a fall of coal.
	20.	August Boldish	Filler after machine.	45			Ella.	Westmoreland.	Injured by having been struck by a post.
Feb.	1.	Joseph Bowler.	Miner.	46	M.		Albany.	Fayette.	Thumb broken by a fall of roof.
	7.	Andrew Berrish.	Miner.	22	S.		Albany.	Fayette.	Leg broken by a fall of coal.
	8.	James Forsyth.	Miner.	18	S.		Walton Upper.	Allegheny.	Leg broken by a fall of slate.
	10.	Samuel Blackmore.	Miner.		M.		Catsburg.	Washington.	Seriously injured by a fall of slate.
	18.	Joseph Sower.	Miner.				Catsburg.	Washington.	Foot injured by a fall of slate.
	20.	Thomas Large.	Miner.	18	S.		Allequippa.	Allegheny.	Leg broken and otherwise injured by a fall of coal.
	20.	John Hisca.	Driver.	45	M.		Albany.	Fayette.	Shoulder blade broken by having been caught between cars.
	24.	Thomas Reid.	Driver.	19	S.		Fidelity.	Washington.	Injured by cars.
Mch.	3.	Peter Yunction.	Filler after machine.				Fayette City.	Fayette.	Arm broken and otherwise injured by a fall of slate.
	11.	John Landroyc.	Miner.	30	S.		Stony Hill.	Fayette.	Leg broken by a fall of rock.
	12.	John Collins.	Driver.	20	S.		Allen.	Washington.	Injured by having been caught by cars.
	13.	John Piccloh.	Miner.				Eclipse River.	Washington.	Leg broken by having been kicked by a mule.
	13.	Thomas Higgin.	Driver.		M.		Anchor.	Fayette.	Leg broken by having been caught between cars.
	13.	Robert Watson.	Driver.		S.		Anchor.	Fayette.	Injured by having been kicked by a mule.

Table No. 5.—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Mch. 18.	Joseph Burgess,	Driver,	26			Charleroi,	Washington,	Slightly injured by having been caught between car and coal pillar.
18.	Mallard Frenchie,	Loader,	25	S.		Cleveland,	Fayette,	Seriously injured by a fall of slate.
18.	Joseph Trashie,	Loader,	32	M.		Cleveland,	Fayette,	Face and leg injured by a fall of slate.
19.	James Maloy,	Miner,	46	M.		Camden,	Allegheny,	Leg broken by a fall of "horseback."
21.	Thomas Smith,	Roadman,		M.		Cleveland,	Fayette,	Injured by a haulage line.
23.	John Stewart,	Loader,	63	M.		Cleveland,	Fayette,	Seriously injured by a fall of slate.
25.	Charles Hodart,	Loader,				Ella,	Westmoreland,	Foot taken off by having been caught in the "return wheel."
27.	Thomas Swainet,	Loader,		M.		Manown,	Allegheny,	Back injured by a fall of roof coal.
28.	John Mack,	Loader,				Knob,	Washington,	Foot and ankle injured by a fall of coal.
30.	J. B. Shering,	Miner,	37	M.		Charleroi,	Washington,	Injured by a fall of roof coal.
April 2.	John Smeker,	Miner,	30	M.		Catsburg,	Washington,	Slightly injured by having been caught between car and coal pillar.
3.	Ronald McCallister,	Day hand,				Buffalo,	Washington,	Slightly injured by an explosion of fire damp.
3.	James Kennedy,	Day hand,				Buffalo,	Washington,	Slightly injured by an explosion of fire damp.
3.	Thomas Patterson,	Day hand,				Buffalo,	Washington,	Slightly injured by an explosion of fire damp.
3.	David Patterson,	Day hand,				Buffalo,	Washington,	Slightly injured by an explosion of fire damp.
3.	L. W. Hicks	Manager,				Buffalo,	Washington,	Slightly injured by an explosion of fire damp.
3.	A. M. Oliver,	Superintendent,				Buffalo,	Washington,	Slightly injured by an explosion of fire damp.
6.	Stephen Shetlock,	Miner,	39	M.	4	Chamouni,	Fayette,	Leg and collar bone broken by a fall of slate.
7.	Frank Carko,	Miner,	28	M.		Allen,	Washington,	Leg broken by a fall of slate.
8.	William Gill,	Riverman,	33			Chamouni,	Fayette,	Injured by having been struck by a coal chute.

	8	John Bennett,	Tipple hand,	17			Chamouni,	Fayette,		Injured by having been struck by a coal chute.
	11.	Charles Linde,	Miner,		S.		Beaumont,	Washington,		Leg injured by having been struck by a post.
	14.	James Coushy,	Driver,	27	M.		Hackett,	Washington,		Injured by cars.
	15.	Peter Shinn,	Miner,				Fulton,	Allegheny,		Seriously injured by a fall of roof coal.
	22.	Frederick Luce,	Miner,	24	S.		Caledonia,	Washington,		Foot slightly injured by a fall of slate.
	25.	John Shider,	Miner,	23	S.		Champion,	Washington,		Hip bone broken by a post having been thrown against it.
	25.	Lovea Forcus,	Miner,	38			Umpire,	Fayette,		Leg broken by a fall of slate.
May	1	Patrick Rogers	Miner,				Fulton,	Allegheny,		Injured by a fall of slate.
	1.	Frederick Miller,	Miner,	38	M.		Snowdon,	Allegheny,		Slightly injured by a fall of slate.
	4.	Edward ollins	Driver,	25	S.		Catsburg,	Washington,		Injured on foot by cars.
	6	S. Schollbert,	Driver,				Snow Hill,	Fayette,		Injured by cars.
	6	M. Mozanino,	Miner,	31	M.	4	Ivill,	Washington,		Thigh broken by a fall of coal and slate.
	8.	Andrew Smith,	Filler after machine,				North Webster,	Westmoreland,		Slightly injured by a fall of slate.
	14.	Frederick Whyler,	Day hand,	47	M.	6	Mongah,	Allegheny,		Seriously injured by an explosion of fire damp.
	16.	Emery Rouse,	Miner,	38	M.		Snowdon,	Allegheny,		Cut about face and head by a fall of roof coal.
	29.	John Booth,	Miner,		M.		Watson,	Allegheny,		Seriously injured by a fall of slate.
June	1.	Matthew Isixon,	Miner,	45	M.		Catsburg,	Washington,		Leg broken by a fall of slate; it was afterwards amputated.
	5.	William Anderson,	Loader,	32	M.		Vesta No. 1,	Washington,		Ankle broken by a fall of coal.
	8.	Coxen Newton,	Scraper,	26	M.		Vesta No. 1,	Washington,		Slightly injured by a fall of coal.
	12.	Joseph Hatchia,	Loader,	46	M.		Cleveland,	Fayette,		Injured by having been struck by a post which was dislodged by falling slate.
	12	John Just,	Miner,	35	S.		Charleroi,	Washington,		Slightly injured by a fall of slate.
	30.	John Sesmond,	Miner,	38	M.		Charleroi,	Washington,		Slightly injured by a fall of slate
	30.	Frank Miller,	Miner,	30	S.		Charleroi,	Washington,		Slightly injured by a fall of slate.
	30.	Yochine Bayko,	Miner,	20	S.		Charleroi,	Washington,		Slightly injured by a fall of slate
July	1.	R. F. Wylie,	Miner,				Rostraver,	Westmoreland,		Slightly injured by a fall of roof coal
	7	Abraham Miller,	Driver,				Snowdon,	Allegheny,		Foot injured by cars.
	8	George Marshen,	Miner,				Snowdon,	Allegheny,		Foot injured by a fall of roof coal.
	14	Edward Herkei,	Miner,				Snowdon,	Allegheny,		Back injured by having been caught by dilly line.
	22	Patrick Greeley	Miner,				Rostraver,	Westmoreland,		Hip dislocated by a fall of coal.
Aug	10.	Edward Colling,	Driver,	25	S.		Catsburg,	Washington,		Seriously injured by having been thrown under a trip of empty cars.
	11.	Max Price,	Miner,	43	M.		Snowdon,	Allegheny,		Back injured by a fall of "Horseback"
	12.	John Shant,	Miner,	36	M.		Snowdon,	Allegheny,		Leg broken by a fall of slate.
	17.	Anthony Longenskey,	Miner,	23	M.	3	Hackett,	Washington,		Collar bone broken by a fall of coal.
	18.	John Penoy	Miner,	20	S.		Catsburg,	Washington,		Injured by a fall of slate.
Sept	11	George Tiebball,	Miner,	20	S.		Catsburg,	Washington,		Leg broken by a fall of roof coal.
	12	Walter Wallace	Miner,				Charleroi	Washington,		Severely injured by a fall of coal and slate.

Table No. 5.—Continued.

Date of accident		Name of Person	Occupation.	Age.	Widow	Number of orphans.	Name of Colliery.	Location County.	Nature and Cause of Accident.
Sept.	17.	Frank River,	Miner,	26	S		Catsburg,	Washington,	Injured while trying to get on the dilly trip.
	19.	John Pohola,	Miner,	50	W		Bunola,	Allegheny,	Several ribs fractured by falling slate.
	21.	Peter Smith,	Miner,				Anchor,	Fayette,	Injured by being caught by empty cars.
	22.	John Beeler,	Miner,		S.		North Webster,	Westmoreland,	Foot crushed by a fall of slate.
	25.	Alexander Collahan,	Machine runner,	16	S		Bunola,	Allegheny,	Left foot torn off and the right one badly mangled by having been caught in the gearing of a mining machine.
	26.	Paul Sleva,	Miner,	34	M.		Allen,	Washington,	Injured by a fall of slate.
	28.	Mathew Paterson,	Miner,	59	M.		Allen,	Washington,	Fingers bruised by a car.
Oct.	1.	William Abbott,	Driver,	24	M.		Little Redstone,	Fayette,	Leg broken above the ankle by cars.
	1.	William Everly,	Miner,				Ella,	Westmoreland,	Injured by having been struck by cars.
	1.	Joseph Alex,	Miner,	22	S		Shepplar,	Westmoreland,	Leg broken by a fall of slate.
	5.	Samuel Harbaugh,	Driver,	41	M.		Manown,	Allegheny,	Arm broken and otherwise injured by cars.
	14.	John Armstrong,	Miner,	32	M.		Fayette City,	Fayette,	Leg broken by a piece of coal from a shot.
	15.	Stephen Lukach,	Filler after machine				Anchor,	Fayette,	Leg broken by a fall of slate.
	23.	Daniel Millison,	Miner,				Ella,	Westmoreland,	Ankle slightly injured by a fall of slate.
	23.	Andrew Fulmar,	Miner,				Cincinnati,	Washington,	Leg broken by a fall of slate.
	26.	John Lazenskie,	Miner,				Arnold,	Fayette,	Injured by a fall of slate.
	28.	Summer Rose,	Machine man,		S.		Tremont,	Fayette,	Arm cut off by a mining machine.
Nov.	4.	George Ficher,	Miner,		M.		Rostraver,	Westmoreland,	Injured by a fall of slate.
	5.	Edward Taylor,	Miner,				Ella,	Westmoreland,	Back injured by a fall of slate.
	9.	Mortora Mickstrinkie,	Miner,	27	S.		Hackett,	Washington,	Injured by a fall of slate.
	17.	Michael Semko,	Driver,	33	M.		Allen,	Washington,	Injured by cars.
	17.	Michael Andiger,	Miner,				Ella,	Westmoreland,	Leg broken by a fall of slate.
	18.	John Johnson,	Loader,				Fayette City,	Fayette,	Leg broken by a fall of slate.
	20.	John Prodeskie,					Vigilant,	Washington,	Right arm broken by cars.

	23.	Albert Lawson	Driver					Rostraver	Westmoreland	Injured by having been struck by an empty car.
	27.	John Lloyd	Driver					Snowdon	Allegheny	Foot injured by cars.
	30.	August Fisher	Miner			32	8	Allen	Washington	Ankle broken by a fall of coal.
Dec.	17.	James Overend	Dilly rider			33	3	Fawcett	Westmoreland	Seriously injured by falling under a trip of cars.
	18.	Palo Fito	Miner			38		Charleroi	Washington	Injured by a fall of coal.
	27.	Charles Rumsby	Filler after machine					Knob	Washington	Both legs broken by a fall of coal.
	28.	Joseph Hunter	Miner					Charleroi	Washington	Seriously hurt by a fall of coal.

SECOND BITUMINOUS DISTRICT.

(ALLEGHENY, INDIANA AND WESTMORELAND COUNTIES.)

Irwin, February 20th, 1897.

Hon. James W. Latta, Secretary of Internal Affairs:

Sir:—In compliance with the requirements of section 11, article 10, of the act of Assembly, approved May 15th, A. D. 1893, I have the honor of submitting my annual report as Inspector of Mines of the Second Bituminous District for the year ending December 31st, 1896.

There are at present 72 mines in the district; 67 of which have been in operation during the year. One mine was in operation only 17 days, another 22 days and two others 98 days each; the other 63 mines were in operation an average of 226½ days each. The mines are still being improved. There is a larger volume of air in circulation in some of the mines than there was in 1895, and there is a general disposition among the mine foremen to convey the air to the face of workings. There are a few exceptions, however, for some men are always behind in everything. It is to be hoped that they will make room for more energetic men who take pride in keeping everything right if it can be done. I have found during more than forty years' practical experience in mines that nothing should be left for to-morrow that can be done to-day. Procrastination has caused more disasters and trouble in mines than any one is aware of. I would again admonish each individual who has charge of mines and especially those persons who leave off until the Inspector comes around the details that should be attended to at once, such work as building stoppings to convey the air to the face of the workings, building doors to direct the air current into the headings. No person should be allowed to cut through into old grooves and pollute the air with black-damp or other foul gases. Particular attention should be given to removing fire damp from the new-made falls when the ribs are being taken out and a constant current of air should be kept sweeping the edges of these falls at all times. The drains should be kept clear so as to allow the water to run into them in place of into the middle of the track. This will save untold annoyance and be a saving of hundreds of dollars to your employer. Don't wait until the

Inspector comes around to tell you where some of the miners are working—this knowledge ought to be in your possession every day in order that you may be master of your work. Duty done in a haphazzard way will never pay and will surely count against you in the end, and some one more conscientious than yourself will fill your place. Therefore, I beg of you not to do your work in a half-hearted way as though you were only filling the important position for the emolument that there was in it for you. The old adage is that whatever is worth doing is worth doing well. If your duty is performed in this way, and an accident should occur, your conscience is clear that the accident did not happen through any fault of yours. You must bear with me that I have endeavored to be plain. I know that I am writing to an intelligent and conscientious set of mine officials, and appreciate your great responsibility. There are so many persons coming into the mines of late years who know nothing of the dangers incident to mining, that it takes almost miraculous power to keep them safe. This state of thing comes under my observation almost daily.

The following statistics are a summary of the reports from all the mines as set out in the tables:

Mines in the district,	72
Mines opened in the district,	2
Mines in the district operated,	67
Mines in the district abandoned,	2
Number of persons employed inside of mines,	8,611
Number of persons employed outside,	2,429
Total number of persons employed,	11,040
Tons of coal mined, of 2,000 pounds each,	7,364,771½
Tons of coal shipped, of 2,000 pounds each,	4,485,553¾
Tons of coke manufactured, of 2,000 pounds each,	1,902,643½
Tons of coal mined for each fatal accident,	283,260.44
Tons of coal mined for each non-fatal accident,	237,573.24
Number of days worked by all the mines,	13,994¼
Average number of days worked by the sixty-three mines,	222+
Number of employes to each fatal accident,	425
Number of employes to each non-fatal accident,	356
Number of horses and mules in use,	992
Number of mine locomotives in use,	3
Number of coke ovens in the district,	7,307
Number of kegs of powder reported as used in the mines,	435
Number of pounds of dynamite reported as used in the mines,	600
Number of steam boilers in use,	255

Number of pumps in use,	135
Number of stationary engines used for hauling and hoisting coal,	85

The production of 1895 was 9,128,787½ tons; this year's production is 7,364,771½ tons, so that there is a decrease of 1,764,016 tons in the production for 1896, which is a great falling off. This is owing to the depressed condition of the iron trade all over the country. The mines in the coke regions have suffered most from this slackness of trade. For some months there was about one-third only of the ovens in blast. Seventeen mines outside of the coke region increased their production 341,118 tons. All the other mines show a decrease in production. Standard No. 2 shaft shows a decrease of 264,850 tons, and Mammoth shows a decrease of 199,683 tons. There was 433 fewer men employed inside of the mines than there was in 1895, and 522 fewer employed outside of the mines than there was in the previous year, thus making a difference of 955 men employed in 1896 less than there were in 1895. The district has not had any strikes or labor troubles during the year, and the wages have remained as they were last year, with the exception of about a half dozen mines. There has been some suffering among our miners on account of too many men being employed for the work that is to be done, and the American citizen has to sell his labor in the same market as the alien who has no family to educate, no taxes to pay, and whose wants are very limited compared with those of the American workman. They fill our hospitals and poorhouses and we usually have to bury them when they meet with fatal accidents in the mines. They don't seem to have any conscientious scruples as to who pays their bills in these institutions, believing that all should be as free as the air they breathe. In the majority of cases the money that they save is sent back to the country of their birth where they follow it as soon as they can. Something should be done with this emigration question if the American citizen is to have the preference, for two-thirds of the miners could easily do the work that is to be done, and the citizen should have the preference.

The following table shows the number of accidents, their causes, etc., that occurred during the year:

	Fatal.	Non-fatal.
By falling slate,	14	15
By falling coal,	2	2
By mine wagons,	5	6
By falling roof coal,	2	5
By being caught under a railroad car,		1

	Fatal.	Non-fatal.
By being struck by a post,		1
By being caught by a plank,		1
By being caught and entangled in mules' harness,	1	
By being caught between wagon and tipple,	1	
By being caught by falling horse-back,	1	
Total,	26	31
Orphans by these fatalities,		25
Widows by these fatalities,		12

After a careful investigation of the fatal accidents, I found that seventeen of these men were killed by carelessness on their own parts. Nearly the same thing can be said this year as was said last year with regard to these accidents. A large number of the miners neglect to set posts under the slate and roof, nor will they set sprags under the coal unless they are compelled to do so by the mine foreman or some other mine official, and it is impossible for these officials to be in each working place at all hours of the day. There is a wonderful amount of ignorance displayed among the mine workers of to-day. Posts and other timber are set up in every conceivable shape; oftentimes posts are set up that are nine inches and a foot from being plumb. No attention whatever is given to the water slips in the slate, to crevices in the roof or other defects in the strata when posting is being done. There should be a rigid discipline and it should be military in its exactness if the lives and limbs of the mine workers are to be protected. A large number of the present mine workers know nothing about mines nor the dangers that were connected with them a few years ago, and on this account the mine officials are having their hands full to keep those people safe. They have to be trained like children, and it often becomes most difficult, because their language cannot be understood. The public frequently blames the Inspector and the mine officials for mine accidents, but if they fully understood the situation and the kind of miners that work in the mines to-day, they would be more reasonable and give due credit to the mine officials for the courage and unselfish devotion displayed in order to keep their fellow beings safe. The mine officials fill responsible positions and they frequently sacrifice their own lives to save the lives of others. A number of those who were killed had been in the mine a short time only and knew nothing of the dangers in which they were working until the fatality occurred. Others had been frequently warned of the danger, but they did not take heed to the

warning and so they paid the penalty of disobedience. Seven of the persons killed were Americans; five were Irishmen; one a German; one a Scotchman, and the other twelve were from the different nationalities of continental Europe. I am pleased to report a decrease of six in the death rate, and twenty-four of a decrease in the non-fatal accidents. Falling slate, as usual, has been the cause of the greater number of deaths and personal injuries during the year. Fully one-half of the mines in the district generate fire-damp, C. H. 4, but we have been fortunate in not having any explosions during the year. This should be attributed to the constant care that has been exercised by the fire-bosses and mine foremen.

It would be well to call the especial attention of mine officials to what is known in mining parlance as "Goaves;" these are where most of the dreaded fire-damp is generated. Nearly all the coal is mixed in these thick seams and there is nothing left to fill its place, and so the roof is crushed down in large masses, and it is in these cavities and in the broken roof that fire-damp frequently lodges in dangerous quantities. These arched cavities are sometimes long in closing up, and they form gas holding goaves of sometimes acres in extent, at times communicating with all parts of the mine and thus becoming a menace to human life and property. Sudden falls may take place at any hour of the day in these goaves which drive the gas into the hauling and traveling ways and make them dangerous. Whenever fire-damp accumulates on the falls, a large volume of air should be forced over these falls at night for the purpose of removing the gas, and a constant current of air kept sweeping the edges of them during the day. This, I believe, is the only practical way of dealing with it, if it is done systematically.

A brief description of each mine is given and of the condition in which it was found, with the average volume of air. The usual tables, etc., will also be found in the report.

Respectfully submitted,

WILLIAM JENKINS
Inspector of Mines.

Description of Mines and Mine Improvements in the Second Bituminous District.

Atlantic.—This mine has been kept in fairly good condition during the year, with an average of 21,830 cubic feet of air passing at the outlet per minute. This volume is fairly conducted to the face of the workings. The mine is also kept well drained. Mine foreman, John W. Stirling.

Arona.—A new opening has been made at the mine for an air and traveling way. It has been timbered for one hundred feet with oak timber 8x10, and lagged with two inch plank. Also a water course has been driven to the outside to drain the dip workings. The mine has been kept in fairly good condition during the year, with an average of 36,975 cubic feet of air passing at the outlet per minute, which is fairly well distributed through the working places. The mine is also reasonably well drained. Mine foreman, William Nesbit.

Alexandria.—On my last three visits I found the ventilation rather defective. This was due partly to the furnace not having been fired up early enough in the mornings and partly to the cutting through into the old workings, thus allowing the black damp C. O. 2 to escape into the air in large quantities. The average volume of air passing at the outlet per minute was 29,645 cubic feet. The mine is kept very fairly drained. A large coal washer has been erected to wash the coal for coking, which has a capacity of 600 tons in ten hours. Mine foreman, Daniel Campbell.

Burrell.—This is a new mine (a drift opening) situated on the West Penn Railroad, a short distance east of Blairsville, Indiana county, and is operated by the Burrel Coal Company. Thomas Maher is superintendent. The mine mouth has been well and neatly timbered with oak timber. As soon as one of the butt headings reaches a certain point an air shaft will be sunk and a furnace erected. The mine is well drained. The outside improvements are a substantial tipple, weigh office and blacksmith shop. Mine foreman, Robert S. Snedden.

Carbon.—The general condition of mine, both as regards healthfulness and safety, have been very good during the year. The average volume of air passing at the inlet was 48,160 cubic feet per minute. This volume is divided and is well conducted to the face of the workings. The mine is also kept well drained. Mine foreman, Joseph Weightman.

Claridge.—On my last visit the ventilation was rather defective in Nos. 7, 10 and 13 headings. The company is going to erect a fan in the spring and when this is done the ventilation will be all right. The average volume of air passing at the outlet per minute is

26,690 cubic feet. This volume comes in at three separate inlets and is fairly conveyed to the face of the workings. The mine is kept well drained. The endless rope system of haulage mentioned in the last report is in successful operation. Mine foreman, William Johnston.

Duquesne.—The general condition of this mine has been favorable during the year. The average volume of air passing at the outlet is 33,650 cubic feet per minute. This volume enters five separate inlets and is fairly well conveyed to the face of the workings. The mine is also kept fairly well drained. Mine foreman, Mark James.

Derry Shaft.—The general condition of the mine, both as regards healthfulness and safety, was very good during the year. The average volume of air passing at the outlet per minute was 70,000 cubic feet. This volume is divided, and is well conducted to the face of the workings. The mine is also well drained. Mine foreman, John Barker.

Denmark.—This mine has been kept in a very good and healthful condition during the year. Two overcasts have been built—this will divide the air current. The average volume of air passing at the outlet is 67,030 cubic feet per minute. This volume was divided and fairly well conveyed to the face of the workings. A wooden pump was erected to pump the increased quantity of water that came into the mine. The mine is now kept well drained. Mine foreman, Edmund Whiteman.

The Hecla Coke Company's Mines.

Hecla No. 1 Shaft.—The outside improvement is a large reservoir constructed to hold water for the boilers and coke ovens. The mine has been kept in a safe and healthful condition during the year. The average volume of air passing at the inlet per minute is 42,015 cubic feet. This volume was divided and well conducted to the face of the workings. The mine is also kept well drained. There have been two overcasts constructed in the mine for the purpose of splitting the air current. Mine foreman, William Dean.

Hecla No. 2 Shaft.—A brick stable has been built at the mine in the place of the one destroyed by fire. The general condition of the mine both as regards healthfulness and safety was very good during the year. The average volume of air passing at the inlet per minute was 69,200 cubic feet. This volume is conducted in four divisions and is well conveyed to the face of the workings. The mine is also kept well drained. Mine foreman, William Snedden.

Hempfield.—A pumping and air shaft has been sunk a half mile northwest of the slope, and an entry driven to connect the slope with the shaft. The shaft is 149 feet in depth, area 12x12; it is

timbered all through with 10x10 oak timber, and is lagged with 2-inch plank. The general condition of the mine has been very favorable during the year. There was an average of 29,280 cubic feet of air passing at the inlet per minute. This volume is fairly well conducted to the face of the workings. The mine is also kept reasonably well drained. Mine foreman, E. B. Davis.

Jamison.—A twelve-foot fan has been erected at this mine. The average volume of air passing at the outlet per minute was 20,883 cubic feet. This volume is fairly conducted to the face of the workings. The mine is also kept fairly well drained. A Stein & Bocricke coal washer has been erected with a capacity for handling 300 tons in ten hours. Sixty new coke ovens have been erected, also a rope haulage on the ovens. Mine foreman, John A. Hart.

Isabella Furnace.—This mine is generally kept in a fair condition, but on my last two visits the fan was stopped on account of the smoke stack having been blown down. They could hardly keep steam enough to keep the crusher, coal washer and haulage engine going, and the ventilation depended on the natural forces so that on my visit in October no air measurement could be taken. The drainage was in favorable condition. Mine foreman, Morris J. Lewis.

Greensburg Coal Company's Mines.

Greensburg No. 1.—This mine has been kept in favorable condition during the year, with an average of 24,970 cubic feet of air passing at the inlet per minute. This volume is circulated around the faces of the working places. The mine is also kept fairly well drained. Mine foreman, David Clark.

Greensburg No. 2.—This mine has been kept in a healthful condition during the year. The average volume of air passing at the inlet per minute was 18,040 cubic feet. This volume is divided and well conducted to the face of the workings. The drainage is also reasonably well looked after. Mine foreman, John McIntyre.

Hostetter-Connellsville Coke Company's Mines.

Hostetter.—The general condition of the mine both as regards healthfulness and safety is very good. The average volume of air passing at the inlet per minute was 52,985 cubic feet. This volume is divided and well conveyed to the face of the working places. The mine is also kept well drained. Mine foreman, George Eustis.

Whitney.—All the double timber has been removed from the mouth of the slope and a stone wall has been built on each side of the track, one hundred feet long, thirteen feet high at the mouth of slope, and gradually sloping down to eighteen inches. A brick arch ten foot circle and ninety-five feet long has been built in

the mouth of the slope. The grade leading to the tipple was also reduced from 15 to 10 feet per 100 so that they are enabled to haul 15 cars at each trip instead of 10 as formerly. A Cameron pump was placed in the mine to pump the increasing quantity of water that comes into the mine. Size of pump, 48x10½x48. The mine has been kept in very fair condition during the year, with an average of 67,500 cubic feet of air passing at the inlet per minute. This volume was divided and fairly conducted to the face of the workings. The mine is kept well drained. Mine foreman, Terrence Donnelly.

Lockport.—This mine has been kept in fair condition during the year. The ventilation and drainage is fairly good. George H. Richards is acting as mine foreman.

Lucesco.—This mine is in a healthful condition. The ventilation is favorable as well as the drainage. Mine foreman, John Nicholson.

Latrobe Coal Works.—This mine has been kept in a safe and healthful condition during the year. The average volume of air passing at the inlet per minute was 34,700 cubic feet. This volume was divided into three splits, and was well conducted to the face of the workings. The mine is also well drained. Mine foreman, Stephen Arkwright.

Maher No. 1.—This mine was worked out during the year and abandoned.

Maher No. 2.—This mine has been kept in a healthful condition during the year. On two of my visits I measured 11,580 cubic feet of air passing at the outlet per minute. At the other two visits I did not get any air measurements, as the furnace fire was extinguished. The mine is well drained. Mine foreman, William Beveridge.

M. Saxman.—The general condition of this mine has been favorable during the year. The average volume of air passing at the outlet per minute was 17,105 cubic feet. This volume enters at several inlets, and is fairly well distributed throughout the mine. Mine is also kept well drained. Mine foreman, John C. Dovey.

Millwood Shaft.—This mine has been kept in fairly good condition during the year. The average volume of air passing at the outlet per minute was 23,060 cubic feet. This is divided and is fairly well conveyed to the face of the workings. The mine is kept well drained. Mine foreman, Thomas Thomas.

Saint Clair.—This mine has been kept in very good condition during the year, with an average of 22,440 cubic feet of air passing out at the outlet per minute. This volume was fairly well conducted to the face of the workings. The mine is also kept well drained. Mine foreman, Richard Meagher.

H. C. Frick Coke Company's Mines.

Mammoth Shaft and Slope.—These mines have been kept in excellent condition during the year. An additional air course has been driven, which increases the average volume of air to 138,038 cubic feet per minute. On my last visit I measured 176,400 cubic feet passing at the inlet, and the pressure guage showed only one inch. This large volume of air was divided and well conveyed to the face of the workings. The mine is also kept well drained. Mine foreman, Daniel Alsop.

United No. 1 Shaft.—The condition of this mine both as regards healthfulness and safety was very good during the year. The average volume of air passing at the inlet per minute was 74,170 cubic feet. This volume is divided and is well conducted to the face of the workings. The mine is also well drained. Mine foreman, John A. Trimbath.

Central Slope.—The mouth of the slope was walled with stone masonry for one hundred feet on both sides of the track and the roof retimbered for this distance. The mine has been kept in a healthful condition during the year, with an average of 66,900 cubic feet of air passing at the inlet per minute. This volume was divided and well conveyed to the face of the workings. The mine is also very well drained. Mine foreman, William J. Morgan.

Standard No. 2 Shaft.—A brick air compressor and safety lamp house has been built, and a pair of 15x42 Allison & Son's air compressors installed. A new 15-inch discharge column pipe from mine pumps to top of shaft has been added during the year. The condition of the mine both as regards healthfulness and safety has been very good during the year. The volume of air in circulation was 157,613 cubic feet per minute. This volume was divided into five separate currents, and is well conducted to the face of the workings. The mine is also well drained. Mine foreman, Robert Hay.

Standard Slope.—A brick safety-lamp house and a blacksmith shop hav been built at this plant during the year. The mine was worked only seventeen days during the year. It is kept in good condition. with an average of 33,400 cubic feet of air passing at the outlet per minute. This volume was divided and well conveyed to the face of the workings. The mine is also well drained. Mine foreman, Alexander Erskine.

Mutual.—A new slope is being opened up in this mine and one of the headings will be connected with the United No. 1 shaft. On my visit I found the mine in favorable condition.

Monastery Slope.—The general condition of the mine both as regards healthfulness and safety is very good. The average volume of air passing at the outlet per minute was 35,000 cubic feet. This volume was divided and kept well circulated about the face of the

workings. The mine is very well drained. Mine foreman, George W. Wilkes.

J. A. Strickler Mine.—This mine has been kept in a very favorable condition during the year. The average volume of air passing at the inlet per minute was 26,640 cubic feet. This volume is divided and is fairly well conducted to the face of the workings. The mine is also kept fairly well drained. Mine foreman, Alexander Davenport.

Calumet Shaft.—The condition of this mine both as regards healthfulness and safety was very good during the year. The average volume of air passing at the inlet per minute was 48,305 cubic feet. This volume is divided and was well conveyed to the face of the workings. The mine is also well drained. Mine foreman, James Eaton.

Graff Mine.—A new opening was made at this mine to another field of coal. The main heading was driven about 300 feet when they struck an old mine that no one seemed to know anything about. In opening this mine they had to cross a ravine from the old mine, and 56 sets of timber had to be set to keep both drift mouths safe. The mine has been kept in very favorable condition during the year notwithstanding that it has to depend on the natural forces for ventilation. The mine is well drained. Mine foreman William Hamer.

Weinman.—This is a small mine employing eleven persons inside. The mine is kept in fairly good condition, with an average of 2,660 cubic feet of air in circulation per minute. The mine is well drained. Mine foreman, Jacob Weinman.

Hampton.—The general condition of this mine has been very favorable. The average volume of air passing at the outlet per minute was 19,630 cubic feet. This volume enters at three separate inlets, and was fairly well conducted to the face of the workings. It is also kept fairly well drained. Mine foreman, Edgar Thompson.

The Southwest Connellsville Coal and Coke Company's Mines.

Alice No. 2.—This mine has been kept in a safe and healthful condition during the year. The average volume of air passing at the inlet per minute was 92,960 cubic feet. This volume was divided and well conducted to the face of the workings. It is also well drained. Mine foreman, William H. Howarth.

No. 3 Mine.—An engine house, one pair of engines, and a wire rope haulage system have been erected at the mine. The timber was taken out of the mine mouth and a strong wall of masonry built on both sides of the track. The wall is eight feet high at the pit mouth and slopes back to one foot. This will keep the water and dirt from the track, and will last as long as the mine lasts. The

mine has been kept in salubrious condition during the year. The average volume of air passing at the inlet per minute was 58,280 cubic feet. This volume was well divided and circulated about the face of the workings. The mine is also well drained. Mine foremna, Robert Hair.

No. 4 Mine.—The general condition of this mine has been very favorable during the year. The average volume of air passing at the outlet per minute was 44,310 cubic feet. This volume was in four divisions and was fairly well conducted to the face of the workings. The mine is fairly well drained. Mine foreman, Robert Morris.

"A" No. 1 Shaft.—A new steel tipple and head frame, of modern design, with the latest improvements, and equipped with a steam pusher for the purpose of facilitating the handling of coal, and with bins of 700 tons storage capacity, has been erected. An additional pump house was erected which is equipped with a Yough plunger mine pump 24x15x36. A cast iron water column pipe 20 inches in diameter was placed in the shaft. The mine has been kept in first-class condition during the year. The average volume of air passing at the inlet per minute was 98,560 cubic feet. This volume was in several separate currents and well conducted to the face of the workings. Mine is also well drained. Mine foreman, John L. Duncan.

"B" No. 1 Shaft.—The general condition of this mine both as regards healthfulness and safety was very good. The average volume of air passing at the inlet was 64,590 cubic feet. This volume was divided and well conducted to the face of the workings. The mine is also well drained. Mine foreman, John Whitfield.

New York and Cleveland Gas Coal Company's Mines.

Sandy Creek.—This mine has been kept in very favorable condition during the year. The average volume of air passing at the outlet per minute was 40,270 cubic feet. This volume enters at six separate inlets and was well conducted to the face of the workings. The mine is also well drained. Mine foreman, Joseph Corbett.

Plum Creek.—The general condition of this mine as regards healthfulness and safety is very good. The average volume of air passing at the outlet per minute was 45,182 cubic feet. This volume enters at five separate inlets and is well conveyed to the face of the workings. The mine is also well drained. Mine foreman, William W. Carter

Oak Hill No. 4.—A new opening has been made at the south side of this mine. The pit mouth has been timbered for quite a distance with double timber, and nearly one mile of track has been graded and laid with steel rails for the rope haulage. The mine has been kept in a healthful condition during the year, with an average of

32,214 cubic feet of air passing at the outlet per minute. This volume enters at five separate inlets and is fairly well conducted to the face of the workings. The mine is well drained. Mine foreman, William P. Owens.

Ocean No. 1 Shaft.—The general condition of this mine both as regards healthfulness and safety has been very good, but on my last visit I found the ventilation very defective in Nos. 7, 9, 11 and 13 butt headings; there was plenty of air in the mine but it was not conveyed into the headings. Average volume of air passing the inlet per minute was 93,450 cubic feet. There were nine overcasts built and fifteen feet of an addition made to the stable underground. An electric plant has also been erected. There are 53 lights at the bottom of the shaft, and all the outside buildings are lighted by electricity. Two new mining machines have also been installed. The mine generates considerable fire-damp, C. H. 4, and there are eight safety lamps in use at present. The mine is well drained. Mine foreman, William Bainbridge.

Ocean.—This is a small mine employing ten persons. On my last visit I found it in fair condition with an average of 3,060 cubic feet of air in circulation per minute. Mine foreman, Gottleib Vogele.

Pleasant Valley.—This mine has been kept in a healthful condition during the year. The average volume of air passing at the outlet per minute was 17,760 cubic feet. This volume enters at two separate inlets, and was well conducted to the face of the workings. The mine is also well drained. Mine foreman, Joseph H. Powell.

Penn Manor Shaft.—The general condition of this mine both as regards healthfulness and safety has been very good during the year. The average volume of air passing in at the inlet per minute was 37,450 cubic feet. This volume was divided and well conveyed to the face of the workings. Mine foreman, Samuel Ferguson.

Madison.—The mine has been kept in favorable and healthful condition during the year. The average volume of air passing at the inlet per minute was 41,050 cubic feet. This volume was divided and fairly conducted to the face of the workings. Mine is also kept well drained. Mine foreman, Harry Gardner.

Loyalhanna Coal & Coke Company Mines.

Loyalhanna Nos. 1 and 2 Shafts.—These mines have been kept in very favorable condition both as regards healthfulness and safety, during the year. The average volume of air passing at the inlet per minute was 44,055 cubic feet. This was divided and fairly conveyed to the face of the workings. The mine is also well drained. Mine foreman, E. W. Altman.

Pandora Shaft.—This mine has been kept in a healthful condition during the year. The average volume of air passing in at the inlet

per minute was 43,785 cubic feet. This volume was in two divisions, and well conducted to the face of the workings. The mine is also well drained. Mine foreman, Enoch Rowley.

Graceton No. 2—This mine has been kept in good condition botl as regards healthfulness and safety during the year. The average volume of air passing at the inlet per minute was 27,000 cubic feet. This volume entered at three separate inlets and was well conveyed to the face of the workings. The mine is also well drained. Mine foreman, John Lochrie.

Smith's Mine.—This mine is in a very favorable condition both as regards healthfulness and safety. The average volume of air passing at the outlet per minute was 6,578 cubic feet. This volume was fairly well distributed through the working places. Mine is also well drained. Mine foreman, Roy Gerard.

Turner.—This mine has been kept in favorable condition during the year. The average volume of air in circualtion was 3,990 cubic feet per minute. On two of my visits I did not get any measurements on account of the furnace fire having been allowed to go out. The mine is kept fairly drained. Mine foreman, J. C. Turner.

The S. H. Smith's Mine.—The general condition of this mine was favorable. The average volume of air passing at the outlet was 8,619 cubic feet per minute. This volume was fairly well circulated to the face of the workings. The mine is well drained. Mine foreman, Daniel Craig.

Penn Gas Coal Company's Mine.

Penn Gas Coal Run Mine.—The general condition of this mine both as regards healthfulness and safety has been very good during the year. The average volume of air passing at the outlet was 39,290 cubic feet per minute. This volume was divided into three splits well conducted to the face of the workings. The mine is well drained. Mine foreman, William Rodgers.

Penn Gas No. 1 Shaft.—This mine is well looked after and is kept in safe and healthful condition. The average volume of air passing at the inlets per minute was 59,333 cubic feet. This volume entered at the head of each butt heading and was fairly well conveyed to the face of the workings. The mine is also well drained. Mine foreman, John Bolan.

Penn Gas No. 2 Shaft.—This mine has been kept in a reasonably fair condition during the year. The average volume of air passing at the outlet per minute was 49,280 cubic feet. This volume was divided into three splits fairly well conducted to the face of the workings. The mine is also fairly well drained. Mine foreman, William Jamison.

Penn Gas No. 4.—This mine has been kept in reasonably good con-

dition both as regards healthfulness and safety. The average volume of air passing at the outlet per minute was 39,084 cubic feet. This volume enters at four separate inlets and is fairly well conducted to the face of the workings. The mine is also well drained. Mine foreman, James H. Absalom.

Westmoreland Gas Coal Company's Mines.

Larimer No. 4.—This mine has been kept in favorable condition during the year both as regards ventilation and drainage. The average volume of air passing at the inlet per minute is 60,145 cubic feet. This volume is divided into ten splits and is fairly well conducted to the face of the workings. Mine foreman, John Williams.

Westmoreland Shaft.—The general condition of this mine has been very favorable during the year both as regards healthfulness and safety. The average volume of air passing out at the outlet per minute is 59,033 cubic feet. This volume is well divided and conducted to the face of the workings. The mine is also well drained. Mine foreman, James Thompson.

Export Mine.—This mine has been kept in very favorable condition during the year both as regards healthfulness and safety. The average volume of air passing at the outlet per minute is 47,780 cubic feet. This volume enters at four separate inlets and is being fairly well conveyed to the face of the workings. The drainage of the mine is also well attended to. Mine foreman, George Carroll.

Spring Hill No. 2.—This mine has been kept in very favorable condition during the year. The average volume of air passing at the outlet per minute was 23,708 cubic feet. This volume entered at four separate inlets and was fairly well conducted to the face of the workings. The mine is also well drained. Mine foreman, William B. Morris.

Humphrey.—This is a new mine, a drift opening, situated on the Sewickley branch of the Pennsylvania Railroad, in Unity township, Westmoreland county, and is operated by the Bessemer Coke Company. R. L. Martin is the general manager. Two miles of a branch road have been graded, and track laid up to the mine. Eighty ovens of the "bee-hive" pattern have been built and are in operation. Two face headings and three butt headings are being driven. A water course has been also driven to drain the mine. The mine mouth has been neatly timbered with 46 sets of 8x8 oak timbers. The mine is ventilated at present by natural forces, but a fan or furnace will be erected in the spring. Mine foreman, William M. Hart.

TABLE No. 1.—Showing Location, etc., of Collieries in the Second Bituminous Mine District.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Postoffice Address.
Alexandria,	Alexandria Coal and Coke Company	Westmoreland,	Thomas Donohoe,	Greensburg.
Arona,	Arona Gas Coal Company,	Westmoreland,	Harry F. Bovard,	Darragh.
Atlantic,	Atlantic Crushed Coke Company,	Westmoreland,	H. C. Burket,	Greensburg.
Burrell,	Burrell Coal Company,	Indiana,	Thomas Maher,	Blairsville.
Calumet shaft,	Calumet Coke Company,	Westmoreland,	B. O. Thomas,	Calumet.
Claridge,	Claridge Gas Coal Company,	Westmoreland,	J. Howard Patton,	Greensburg.
Carbon,	Carbon Coal and Coke Company	Westmoreland,	William M. Singer,	Greensburg.
Denmark,	Manor Gas Coal Company,	Westmoreland,	A. P. Cameron,	Claridge.
Derry shaft,	Derry Coal and Coke Company,	Westmoreland,	E. T. Saxman,	Latrobe.
Duquesne,	Corey Coal Company,	Allegheny,	W. L. Dixson,	No. 15 Brushton ave, P'g'h.
Export,	Westmoreland Gas Coal Company,	Westmoreland,	A. N. Humphreys,	Irwin.
Greensburg No. 1,	Greensburg Coal Company,	Westmoreland,	Thomas L. Jones,	Greensburg.
Greensburg No. 2,	Greensburg Coal Company,	Westmoreland,	Thomas L. Jones,	Greensburg.
Graff,	Blairsville Coke Company, Limited,	Indiana,	Jacob Graff,	Blairsville.
Graceton Nos. 1 and 2	McCreary Coke Company,	Indiana,	Harry McCreary,	Graceton.
Hecla No. 1 shaft,	The Hecla Coke Company,	Westmoreland,	Thomas Laird,	South West.
Hecla No. 2 shaft,	The Hecla Coke Company,	Westmoreland,	Thomas Laird	South West.
Hempfield,	Hempfield Coke Company	Westmoreland,	Thomas L. Jones,	Greensburg.
Hostetter,	Hostetter Connellsville Coke Company,	Westmoreland,	John T. Rush,	Whitney.
Hampton,	Hampton Coal Company	Allegheny,	John S. Stewart,	Edgewood Park.
Isabella Furnace,	Isabella Furnace Company,	Westmoreland,	W. C. Grist,	Blairsville.
Jamison,	Jamison Coal Company,	Westmoreland,	Thomas S. Jamison,	Greensburg.
Lockport,	Bolivar Coal and Coke Company	Westmoreland,	George H. Richards,	Lockport.
Lucesco,	Bell Coal Company,	Westmoreland,	John Nicholson,	Lucesco.
Latrobe Coal Works,	Latrobe Coal Company,	Westmoreland,	D. W. Jones,	Latrobe.
Loyalhanna Nos. 1 and 2 shafts,	Loyalhanna Coal and Coke Company,	Westmoreland,	R. M. McKinney,	Latrobe.
Larimer No. 4,	Westmoreland Gas Coal Company,	Westmoreland,	A. N. Humphreys,	Irwin.
Millwood shaft,	Millwood Coal and Coke Company,	Westmoreland,	E. B. Kimmell,	Millwood.
Madison,	Madison Gas Coal Company,	Westmoreland,	Thomas Donohoe, Jr.,	Darragh.
Mammoth shaft and slope,	H. C. Frick Coke Company,	Westmoreland,	Harry Van Gorder,	Mammoth.
Monastery slope,	H. C. Frick Coke Company,	Westmoreland,	A. F. Downing,	Latrobe.
M. Saxman,	M. Saxman, Sr., & Co.,	Westmoreland,	Frank Kiernan,	Latrobe.
Mitchell,	Indiana Coal Company,	Indiana,	Jacob Graff,	Blairsville.
Maher No. 2,	Maher Coal and Coke Company,	Indiana,	Thomas Maher,	Blairsville.
No. 1 "A" and "B" shafts,	Southwest Connellsville Coke Company,	Westmoreland,	William S. Ramsay,	Mt. Pleasant.
No. 2,	Southwest Connellsville Coke Company,	Westmoreland,	J. L. Finch,	Mt. Pleasant.
No. 3,	Southwest Connellsville Coke Company,	Westmoreland,	J. M. Whitelaw,	Alverton.
No. 4,	Southwest Connellsville Coke Company,	Westmoreland,	J. M. Whitelaw,	Alverton.
Mutual,	H. C. Frick Coke Company,	Westmoreland,	John M. White,	United.
Ocean No. 1 shaft,	Ocean Coal Company,	Westmoreland,	F. I. Kimball,	Herminie.
Oak Hill No. 4,	New York and Cleveland Gas Coal Co.,	Allegheny,	T. B. Detmut,	Turtle Creek.
Ocean,	Gottlieb Voegele,	Allegheny,	Gottlieb Vogele,	Wilkinsburg.

Plum Creek,	New York and Cleveland Gas Coal Co.,	Allegheny,	T. B. Detmut,	Turtle Creek.
Penn Gas No. 1 shaft,	Penn Gas Coal Company,	Westmoreland,	John F. Wolf,	Irwin.
Penn Gas No. 2 shaft,	Penn Gas Coal Company,	Westmoreland,	John F. Wolf,	Irwin.
Penn Gas No. 3 shaft,	Penn Gas Coal Company,	Westmoreland,	John F. Wolf,	Irwin.
Penn Gas No. 4,	Penn Gas Coal Company,	Westmoreland,	John F. Wolf,	Irwin.
Penn Gas Coal Run,	Penn Gas Coal Company,	Westmoreland,	John F. Wolf,	Irwin.
Penn Gas slope,	Penn Gas Coal Company,	Westmoreland,	John F. Wolf,	Irwin.
Pleasant Valley,	Elkins Gas Coal Co.,	Westmoreland,		820 Penn ave, Pittsburg.
S. H. Smith,	The Ligonier Coal Company,	Westmoreland,	Daniel Craig,	Latrobe.
Strickler,	J. A. Strickler Coke Co., Limited,	Westmoreland,	J. A. Strickler,	Wilkinsburg.
Standard Nos. 1 & 2 shafts,	H. C. Frick Coke Company,	Westmoreland,	Robert Ramsay,	Mt. Pleasant.
Standard slope,	H. C. Frick Coke Company,	Westmoreland,	Robert Ramsay,	Mt. Pleasant.
Saint Clair,	Saint Clair Coal and Coke Co., Limited,	Westmoreland,	M. A. Preston,	Bradenville.
Smith's,	Robert Smith,	Indiana,	Robert Smith,	Blairsville.
Sandy Creek,	New York and Cleveland Gas Coal Co.,	Allegheny,	William Fisher,	White Ash.
Spring Hill No. 2,	Spring Hill Gas Coal Company,	Allegheny,	E. W. Boyd,	Turtle Creek.
Turner's,	J. M. Turner,	Indiana,	J. M. Turner,	Blairsville.
Penn Manor shaft,	Penn Manor Shaft Company,	Westmoreland,	Samuel Ferguson,	Harrison City.
United No. 1 shaft,	H. C. Frick Coke Company,	Westmoreland,	John M. White,	United.
Pandora shaft,	Loyalhanna Coal and Coke Company,	Westmoreland,	R. M. McKinney,	Latrobe.
Central,	H. C. Frick Coke Company,	Westmoreland,	M. F. Mull,	Fern.
Whitney,	Hostetter Connellsville Coke Company	Westmoreland,	John T. Rush,	Whitney.
Westmoreland shaft,	Westmoreland Gas Coal Company,	Westmoreland,	A. N. Humphreys,	Irwin.
Weinman,	Weinman Brothers,	Allegheny,	Jacob Weinman,	Wilkinsburg.
Humphrey	Bessemer Coke Company,	Westmoreland,	Wm. M. Hart,	Pleasant Unity.

TABLE No. 2.—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder used, etc., in the Second Bituminous Mining District, for the year ending December 31, 1896.

Names of Collieries.	Location.	Total production in tons of coal.	Total production in tons of coke.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Number coke ovens.
Alexandria,	Goff, Westmoreland,	105,581	35,707	48,448	174½	157	.....	.....	.....	2	17	.....	293
Atlantic,	Bradenville, Westmoreland,	56,000	17,000	29,200	177	70	.....	.....	.....	2	9	.....	79
Avona,	Darragh, Westmoreland,	113,675	.....	112,585	174	160	1	1	.....	1	6	.....	.....
Burrell,	Blairsville, Indiana,	12,418	.....	12,418	243	13	.....	.....	.....	.....	1	.....	.....
Claridge,	Claridge, Westmoreland,	139,415	.....	139,415	177	165	1	.....	10	1	8	.....	.....
Carbon,	Greensburg, Westmoreland,	124,517	15,142	92,002	211	175	1	1	.....	4	24	.....	48
Calumet shaft,	Calumet, Westmoreland,	81,300	60,000	.....	251	153	.....	.....	.....	6	16	.....	225
Denmark,	Claridge, Westmoreland,	86,997¼	.....	83,620½	168	178	.....	.....	.....	4	10	.....	.....
Derry shaft,	Bradenville, Westmoreland,	154,947	81,423½	32,682½	245	216	.....	.....	.....	3	15	‡	182
Duquesne,	Wilkinsburg, Allegheny,	86,521	.....	86,521	200½	180	1	.....	.....	2	13	1	.....
Central,	Feree, Westmoreland,	92,000	60,900	.....	253	116	1	.....	.....	8	22	.....	301
Export,	Export, Westmoreland,	367,656	.....	365,799	273	536	.....	5	.....	3	19	.....	.....
Greensburg No. 1,	Greensburg, Westmoreland,	58,926	.....	58,891	107	86	.....	1	.....	2	12	.....	10
Greensburg No. 2,	Greensburg, Westmoreland,	23,847	.....	22,806	107	31	.....	.....	.....	1	3	.....	.....
Graff,	Blairsville, Indiana,	21,469	.....	21,469	300	16	.....	.....	.....	.....	1	.....	24
Graceton Nos. 1 and 2,	Graceton, Indiana,	34,092	22,728	120	262	203	.....	.....	.....	4	14	.....	181
Hempfield,	Greensburg, Westmoreland,	124,675	.....	120,500	112	136	.....	.....	.....	4	20	.....	.....
Hostetter,	Hostetter, Westmoreland,	110,000	61,000	21,000	256	171	.....	.....	.....	4	16	.....	305
Hecla No. 1 shaft,	South West, Westmoreland,	110,758½	75,579	22,000	248	187	.....	.....	*	8	29	.....	272
Hecla No. 2 shaft,	Trauger, Westmoreland,	151,186	106,430	.....	252	217	.....	.....	.....	8	33	.....	500
Hampton,	Wilkinsburg, Allegheny,	42,000	.....	42,000	197	98	.....	1	.....	1	12	.....	.....
Isabella Furnace	Cokeville, Westmoreland,	168,000	117,000	.....	288	220	.....	.....	.....	7	32	.....	252
Jamison,	Donohoe Westmoreland,	16,864	8,240	16,864	145	120	1	.....	150	3	10	.....	120
Lucesco,	Lucesco, Westmoreland,	9,826	.....	9,826	196	27	.....	.....	70	.....	2	.....	.....
Lockport,	Lockport,	7,200	500	6,700	180	14	.....	.....	85	1	1	.....	53

Loyalhanna No. 1 shaft	Loyalhanna, Westmoreland,	170.648	25.232	116.978	168	317				7	28		136
Loyalhanna No. 2 shaft,	Latrobe, Westmoreland,				168								
Larmer No. 4,	Larmer, Westmoreland,	357.294		352.724	275	705	2			4	23		
Millwood shaft,	Millwood, Westmoreland,	93.024		89.821	280	142		1	12	6	32		
M. Saxman,	Latrobe, Westmoreland,	31.131	23.693	28.941	224	83		1		2	10		59
Latrobe Coal Works,	Latrobe, Westmoreland,	179.749½	64.400	81.994¼	224	210	2			5	14		136
Monastery slope,	Latrobe, Westmoreland,	70.000		70.000	157	101				11	14		208
Madison,	Darragh, Westmoreland,	123.349		122.695	149	176				2	19		
Mammoth shaft and slope	Mammoth, Westmoreland,	218.800	142.000		253	310	1			13	35		510
Maher No. 2,	Blairsville, Indiana,	30.091		30.091	295	24							
Mutual,	Mutual, Westmoreland,	9.623		9.623	220	15				2	3		154
Ocean No. 1 shaft,	Herminie, Westmoreland,	273.561		265.536	259	493	1	3		3	33		
No. 1 "A" and "B" shafts,	Mt. Pleasant, Westmoreland,	460.660	309.730		276	517	2	1		19	41		620
No. 2 slope,	Mt. Pleasant, Westmoreland,	185.520	123.695		223	243		2		2	33		250
No. 3 shaft,	Farrs, Westmoreland,	152.640	89.950		229	297				8	20		180
No. 4 slope,	Alverton, Westmoreland,	128.936	85.196		274	138				2	12		151
Oak Hill No. 4,	Turtle Creek, Allegheny,	350.546		350.546	260¼	391	1	3		3	20		
Ocean,	Wilkinsburg, Allegheny,	4.666¾		4.666¾	306	12					2		
Plum Creek,	Negley, Allegheny,	268.631		268.631	235¾	276	2			1	15	1	
Pleasant Valley,	Harrison City, Westmoreland,	37.170		37.170	98	105					6		
Penn Manor shaft,	Manor, Westmoreland,	18.784¼		16.687	156	58		1		4	4		48
Pandora shaft,	Loyalhanna, Westmoreland,	40.291		39.561	98	140				5	8		
Penn Gas No. 1 shaft,	Irwin, Westmoreland,	166.905		162.287	178	269				8	33		
Penn Gas No. 2 shaft,	Irwin, Westmoreland,	168.374½		159.200	182½	294	1	4		8	36		
Penn Gas Coal Run,	Irwin, Westmoreland,	70.573½		69.935½	171	115	1	1			11		
Penn Gas No. 4,	Sewickley, Westmoreland,	106.466½		105.452	134	215		2		3	23		
Strickler,	South West, Westmoreland,	46.862		46.862	209	56				3	6		
S. H. Smith,	Latrobe, Westmoreland,	27.417½		27.417½	166	28					3		
Standard Slope,	Mt. Pleasant, Westmoreland,	7.500			17	85				5	6		
Standard No. 2 shaft,	Mt. Pleasant, Westmoreland,	365.700	245.500		255	489	1			19	62		905
Saint Clair,	Bradenville, Westmoreland,	62.504¼	23.628	22.552¾	203	104		1		4	13		128
Smith's,	Blairsville, Indiana,	28.340		28.220	300	29					5		
Sandy Creek,	White Ash, Allegheny,	215.223		215.223	284¾	281	2			24	1	1	
Spring Hill No. 2,	Walls, Allegheny,	65.403		65.403	208	94		1		1	8		
Turner's,	Blairsville, Indiana,	12.226		10.226	300	13					1		
United No. 1 shaft,	United, Westmoreland,	81.000	51.228		175	158	1			7	17		300
Humphrey,	Pleasant Unity, Westmoreland,	2.700	1.742		22	76					3		80
Whitney,	Whitney, Westmoreland,	108.000	60.000	21.000	255	166				4	18		302
Westmoreland shaft,	Biddle, Westmoreland,	316.914		307.761	253	403	2			14	22		
Westmoreland Car Shops,	Irwin, Westmoreland,				300	44				1			300
Larimer Coke Plant,	Larimer, Westmoreland,												
Weisman,	Wilkinsburg, Allegheny,	7.812		7.812	272	13					2		
Total,		7,364.771½	1,902.643½	4,485.553¾	13,994¼	11,040	26	31	435	255	992	3	7,307

TABLE No. 3.—Showing the number of each class of employes at each colliery in the Second Bituminous Mine District, during the year 1896.

Names of Collieries.	Location—County.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							
		Inside foreman or mine boss.	Miners.	Miners' boys.	All company men.	Drivers and runners.	Doorboys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Cokers and yard men.	All company men.	Superintendent, bookkeepers and clerks.	Total outside.	Grand total—inside and outside.
Alexandria,	Westmoreland,	1	90	5	7	11	7	121	2	3	2	23	13	3	36	157
Arona,	Westmoreland,	1	114	18	3	7	3	146	.....	2	3	.....	.....	2	14	160
Atlantic,	Westmoreland,	1	37	.....	1	6	3	48	1	1	2	10	7	1	22	70
Burrell,	Indiana,	1	10	.....	.....	1	.....	12	.....	.....	.....	.....	.....	1	1	13
Carbon,	Westmoreland,	1	107	7	6	14	.....	135	1	3	3	19	12	2	40	175
Calumet Shaft,	Westmoreland,	1	72	3	11	8	2	97	3	2	3	40	6	2	56	153
Claridge,	Westmoreland,	1	126	2	5	10	5	149	.....	3	2	.....	10	1	16	165
Central	Westmoreland,	1	56	.....	7	8	2	74	1	3	4	26	6	2	42	116
Derry shaft,	Westmoreland,	1	124	.....	12	11	8	156	1	3	4	40	9	3	60	216
Denmark,	Westmoreland,	1	133	6	6	12	6	164	.....	2	3	.....	7	2	14	178
Duquesne,	Allegheny,	1	128	17	5	7	4	162	1	1	4	.....	11	1	18	180
Export,	Westmoreland,	1	450	11	10	13	12	497	1	3	3	.....	30	2	39	536
Greensburg No. 1,	Westmoreland,	1	54	5	2	10	2	74	1	3	3	.....	4	1	12	86
Greensburg No. 2,	Westmoreland,	1	19	2	1	3	.....	26	1	.....	2	.....	1	1	5	31
Graff,	Indiana,	1	11	.....	1	1	.....	14	.....	.....	.....	.....	.....	2	2	16
Graceton Nos. 1 and 2,	Indiana,	1	102	2	8	7	5	125	2	2	6	54	12	2	78	203
Hecla No. 1 shaft,	Westmoreland,	1	82	2	12	12	6	115	2	4	6	46	11	3	72	187
Hecla No. 2 shaft,	Westmoreland,	1	96	3	8	13	10	131	2	4	5	35	17	3	86	217
Hempfield,	Westmoreland,	1	91	6	6	11	2	117	1	4	3	.....	10	1	19	136
Hostetter,	Westmoreland,	1	106	5	4	7	2	125	1	4	5	28	6	2	46	171
Hampton,	Allegheny,	1	65	6	4	5	4	85	.....	2	1	.....	7	3	13	98
Isabella Furnace,	Westmoreland,	2	100	3	11	19	3	138	3	6	5	35	21	2	82	220
Jamison,	Westmoreland,	1	59	5	3	8	2	78	1	2	3	21	3	2	42	120

Lucesco	Westmoreland	1	18	4	2											4	14
Lockport	Westmoreland	1	8														
Latrobe Coal Works	Westmoreland	1	125	10	4	12										45	210
Latrobe No. 1	Westmoreland	1	395	26	15	22	16	47	1	3	2		22	1		49	505
Loyalhanna No. 1 shaft	Westmoreland	1	222	9	29	16	5	253	1	4	4	17	15	3		44	317
Loyalhanna No. 2 shaft	Westmoreland																
Millwood shaft	Westmoreland	1	98	2	6	12	3	122	1	3	3		14	1		20	142
Madison,	Westmoreland	1	111	25	5	11	3	158	1	2	3		10	2		18	176
M. Saxman	Westmoreland	1	45	3	1	8	1	62		1	1	18		1		21	83
Monastery slope	Westmoreland	1	60	6	4	8	3	82	1	2	3		6	2		19	101
Mammoth shaft and slope	Westmoreland	1	142	6	17	14	4	184	1	4	7	85	26	3		126	310
Maher No. 1	Indiana	1	20			2		23						1		1	24
No. 1 "A" and 2 shafts	Westmoreland	2	249	3	31	24	7	276	1	5	16	174	40	5		241	517
No. 2 slope,	Westmoreland	1	103	4	7	14	1	129	1	2	3	85	29	2		116	245
No. 3 shaft	Westmoreland	1	99		11	12	3	117	1	2	6	66	13	2		90	207
No. 4 shaft	Westmoreland	1	56	3	5	6		71	1	1	2	52	8	2		65	136
Mutual	Westmoreland		9		1	3		13		1				1		2	15
Ocean No. 1 shaft	Westmoreland	1	329	15	72	29	3	451	1	5	4		29	3		42	493
Oak Hill No. 4	Allegheny	1	310	20	3	21	13	368	1	2	3		14	3		23	391
Ocean	Allegheny	1	8	1		1		11						1		1	12
Plum Creek	Allegheny	2	190	15	7	13	10	237		1	2		30	3		39	276
Pleasant Valley	Westmoreland	1	84	2	2	6	2	97		3			4	1		8	105
Penn Manor shaft	Westmoreland	1	40	2	3	2		48		1	3		5	1		10	58
Pandora	Westmoreland	1	113	2	4	6	2	128	1	1	2		6	2		12	140
Penn Gas No. 1 shaft	Westmoreland	1	192	1	16	24	5	249	1	3	4		29	2		36	289
Penn Gas No. 2 shaft	Westmoreland	1	205	10	13	26	3	258	1	3	4		24	2		36	294
Penn Gas Coal Run	Westmoreland	1	86		4	11	3	105	1	3			5	1		10	115
Penn Gas No. 3	Westmoreland	1	159		8	19	2	188	1	3	3		18	1		26	215
Strickler	Westmoreland	1	49		1	5	1	48	1	1	2		3	1		8	56
S. H. Sunday	Westmoreland	1	22	1		3	1	27					1			1	28
Standard No. 1 shaft	Westmoreland	1	227	5	33	16	5	286	1	7	7	150	36	3		204	489
Standard slope	Westmoreland	1	62	4	3	7		79	1	2		2	1			6	85
Saint Clair	Westmoreland	1	72	2	4	5	4	88	1	2	4	19	8	2		36	124
Smith's	Indiana	1	23		1	2		27					1	1		2	29
Sandy Creek	Allegheny	1	190	20	11	15	2	249	1	3	4		22	2		32	281
Spring Hill No. 2	Allegheny	1	64	4	2	6	1	78	2	1	2		8	3		16	94
Turner's	Indiana	1	10			1		12						1		1	13
United No. 1 shaft	Westmoreland	1	77	5	5	10	5	102	1	2	5	33	12	2		55	158
Humphrey	Westmoreland	1	37		1	3		42	2	2		25	3	2		34	76
Whitney	Westmoreland	1	100	3	5	7	1	117	1	3	6	30	7	2		49	166
Westmoreland shaft	Westmoreland	1	305	11	18	22	9	366	1	4	9		17	3		34	400
Westmoreland Gas Shaft	Westmoreland								1	19	1		23			44	44
Wehrum	Allegheny	1	10			1		12						1		1	13
Total		66	6,870	345	482	636	211	8,711	76	167	199	1,207	682	118		2,429	11,040

TABLE No. 4.—List of Fatal Accidents that occurred in and about the mines of the Second Bituminous Mine District, for the year ending December 31, 1896.

Date of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 4,	Michael Smith,	Miner,	25	S.	....	No. 1 "A" shaft,	Westmoreland,	Back broken by being caught by a fall of slate as he was drawing posts out in a rib. He was taken to the Cottage Hospital at Connellsville on January 6th, and died there on the 20th.
28,	Jacob Kasparek,	Miner,	19	S.	....	Penn Gas No. 2 shaft,	Westmoreland,	Instantly killed by a fall of roof coal as he was drawing out posts in a rib. Frank Siesteck was working with Kasparek at the time of the accident, and he stated before the coroner that he had warned Kasparek not to go after the post as the place was not safe, but he did not heed the warning and so lost his life through his own carelessness.
Feb. 13,	Joseph Bolts,	Miner,	14	S.	....	Claridge,	Westmoreland,	Was fatally injured by a fall of coal. The boy and his father and another brother were working in the same room. The mine was idle on this day, and the father did not come in with the boys. So they had just got through bearing-in the coal to a clay vein, when it fell on him. Mr. Johnston, the mine foreman, stated that he had a great deal of trouble to get them to sprag the coal, and he thought that they did not have the coal spragged at this time. He was taken to the Greensburg Hospital and died there on the 18th.

Mch.	6,	Andrew Tatmenan	Miner	32	1	....	Central,	Westmoreland,	Was fatally injured by being crushed between a wagon and rib. At the time of the accident he was standing at the mouth of the heading and the driver stated that he was coming out with his trip and the deceased jumped in front of the trip and was caught. He was taken to the Cottage Hospital at Connellsville and died in a few days.
	7,	John Lantz,	Miner,	38	1	6	Jamison,	Westmoreland,	Was instantly killed by being caught by a fall of horse-back. William Leonard was working with him at the time of the accident and he stated that he had gone out with a wagon and had been away about twenty minutes, and when he came back he found Lantz dead under the fall. He also stated that Lantz had sounded the roof about one hour before and pronounced it safe, and thought it would stand all right until their day's work was done, when he intended to post it.
April	5,	Robert Clark	Miner,	60	1	....	Penn Gas Coal Run,	Westmoreland,	Was fatally injured by falling between wagons. As Clark was working in the Penn Gas No. 1 shaft and was going home through Coal Run mine, he got on top of a slate wagon to ride out, and in getting off he fell between wagons, crushing his leg badly. He was taken to the Connellsville Cottage Hospital where his leg was amputated, and he died in a few days.
	13,	Edward Miller,	Driver,	18	S.	....	Sandy Creek,	Allegheny,	Was fatally injured by being caught by a fall of slate, his legs having been so badly crushed that amputation became necessary, and while undergoing this operation he died. At the time of the accident he was sitting down bearing-in, and he did not have a single post set under the slate, although he had frequently been warned about it, as the slate was rotten and full of water slips.
	18,	Homer Duff,	Miner,	47	S.	....	Sandy Creek,	Allegheny,	Was fatally injured; fell in front of a trip and the wagon passed over him, breaking one of his legs, fracturing his shoulder, and crushing several of his ribs. He died on the 24th.

Table No. 4.—Continued

Date of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
June 2.	Thomas Tryon	Miner,	25	S.	....	Mammoth,	Westmoreland, ...	Was instantly killed by being caught by a fall of slate; he had been working on the road during the day, and the road men that were working with him stated that he went into the heading to load a wagon before going home; they went to the face and saw that there was some slate loose there and told him to take it down, but he neglected to do so and was killed.
3.	Alexander Mora	Tippleman,	33	1	4	Standard No. 2 shaft, ...	Westmoreland, ...	Was fatally injured by being caught between a wagon and the tipple. As he was dumping the wagon his coat sleeve caught the end of the wagon and he was carried down the shute and crushed so that he died in seven hours after.
20.	Charles Stuck	Miner,	17	S.	....	Larimer No. 4,	Westmoreland, ...	Was instantly killed by a fall of slate as he was sitting down bearing-in. His father stated that he had told the boy to get a post and set it under the slate. The boy would not go, so he went himself, and while he was coming back with the post, the slate fell and killed the boy.

July	2.	William Anderson	Driver.	23	1	2	Plum Creek,	Allegheny,	Was fatally injured by falling in front of a trip and the wagon passing over him. There was no one present when the accident occurred, and the supposition was that he had got off the trip to take sprags out. The wagons passed over both his legs and one of his arms crushing them so that amputation became necessary, and while the doctor was performing the operation he died.
	3.	Andrew Rusk,	Miner.	26	1	1	United No. 1 shaft,	Westmoreland,	Was fatally injured by getting entangled in the harness. He was taking a mule from the shaft to the watering trough and fell and the mule dragged him from the watering trough to the stable. He died twenty minutes after. The jury brought in a verdict of accidental death.
	22.	John McCabe	Miner.	51	1	....	Westmoreland shaft,	Westmoreland,	Was instantly killed by being caught by a fall of roof coal as he was knocking out some posts in a rib. He was finishing the rib, but had not set sufficient posts.
Aug.	3.	Frank Kercher	Miner.	16	S.	....	Plum Creek,	Allegheny,	Was instantly killed by a fall of coal as he was sitting down bearing-in. The boy's father and a younger brother were working in the room with him at the time of the accident, and they testified before the coroner that they had put off a shot the evening before, and had loaded the coal, and they had just started to bear-in when the coal fell and killed the boy.
	5.	Antonio Stwiesski	Miner.	19	S.	....	Westmoreland shaft,	Westmoreland,	Was instantly killed by a fall of slate as he was knocking down coal. There was about two tons of slate fell on his head and crushed it into a shapeless mass. I discovered a water slip in the slate when I made the investigation, which could not be seen until after the slate fell. Robert Pain had been in the room a short time before the accident and he stated that there was one post set under the slate at the time.

Table No. 4.—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Sept. 3.	John Benson.	Miner.	30	S.	....	Ocean No. 1 shaft.	Westmoreland.	Was instantly killed by being caught by a fall of slate as he was loading a wagon. Aaron Peterson was working with him at the time, and stated that he had worked with Benson for four months. They did not examine the slate, and had put off two shots in the coal the evening before. On my investigation I discovered that the slate was rotten and full of water slips and should have been well posted, but this they had neglected to do.
23.	John Folson.	Miner	29	S.	....	Oak Hill No. 4.	Allegheny.	Was instantly killed by a fall of slate. As he was taking up bottom coal, the slate fell on his back and drove the pick handle through his breast. His brother, who was working with him, stated that there was plenty of posts in the place and that they had some under the slate.
Oct. 6.	Ludwig Carlson	Miner.	33	1	2	Carlon	Westmoreland.	Was fatally injured by being caught by a fall of coal. At the time of the accident he was sitting down bearing-in. The mine foreman stated before the coroner that Carlson was a careful man and had always been in the habit of spragging the coal, but he had neglected to do so at this time.

Nov.	3.	Mor'm Grevini.	Miner.	45	1	3	Larimer No. 4,	Westmoreland.	Was fatally injured by being caught by a fall of slate, and died in eight hours after. He had just put off a shot in the coal and went to examine it before the smoke had cleared away, when about three tons of slate fell. He had worked in the mines only two months, so that his experience must have been limited.
	20.	William Layton.	Miner	37	1	3	No. 1 "H" shaft,	Westmoreland.	Was instantly killed by being caught by a fall of slate. George Selinia was working with him at the time, and he testified before the coroner that they had sounded the slate ten minutes before the accident and it appeared to be all right. He then went back for a post to set under it and while doing so it fell on Layton. My opinion is that they should have set posts under the slate a little sooner.
	23.	Albert Kropp	Miner.	24	1	1	Duquesne,	Allegheny	Was instantly killed by being caught by a fall of slate as he was setting a post under it. A young man was working with him at the time and he testified before the coroner that Kropp said that the slate would fall and kill him. From this conversation Kropp must have known that the slate was loose and they should have taken it down in place of attempting to post it up.
Dec.	1.	James Donnelly.	Miner	16	S.		Avona,	Westmoreland.	Was instantly killed by being caught by a fall of slate. There was an elder brother working in the room with him who testified at the coroner's inquest that he was about going to sound the slate before it fell. The coroner should have rebuked him severely for not keeping his brother from under it until he had done so. The slate was rotten and full of water slips, and should have been taken down.

TABLE No. 4.—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
24,	Hugh O'Connor, ...	Miner, ...	50	S.	....	Loyalhanna No. 1 shaft,..	Westmoreland, ...	Was instantly killed by being caught by a fall of slate while he was bearing-in. William Winn was working with him at the time and he stated that the fire boss had told them that the place was working when he made his examination in the morning, and ordered them to be careful. When they got in he set three posts under the slate, which he thought would keep the place in a safe condition.
30,	Emory Fowler, ...	Miner, ...	24	S.	....	Latrobe Coal Works, ...	Westmoreland, ..	These men were killed by the same fall of slate. They were working together drawing heading stumps, and there were three other persons working across the heading from them, who testified at the coroner's inquest that they were standing close by, looking at the men working. They also stated that the place was safe and free from danger, and thought it did not appear to be working any at the time, but as soon as the men commenced to work on the small stump that was left in to support the roof, about seven tons of slate fell and crushed both their lives out, and it took some time before their bodies were gotten out from under the fall.
30,	Isaiah Morris, ...	Miner, ...	26	1	3	Latrobe Coal Works, ...	Westmoreland, ..	

TABLE No. 5.—List of Non-Fatal Accidents that occurred in and about the mines of the Second Bituminous Mine District, for the year ending December 31, 1896.

Date of accident.		Name of Person.	Occupation.	Age.	Married.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan.	7.	Harry H. Wardley,	Trapper boy,	15	S.	Saint Clair,	Westmoreland,	Leg broken by a fall of roof coal.
	8.	Joseph Ponsetta,	Dilly rider,	44	M.	Loyalhanna No. 1 shaft,	Westmoreland,	Ankle bone fractured by being caught between wagons.
	14.	Ware Stephonavic,	Miner,	28	....	Export,	Westmoreland,	Head and shoulder injured by a fall of slate.
	22.	Mathias Smith,	Miner,	54	S.	M. Saxman,	Westmoreland,	Arm broken by a fall of coal.
Feb.	3.	Charles Beaver,	Driver,	27	M.	Alice No. 2,	Westmoreland,	Rib broken by being struck by a wagon.
	5.	Grant Steadman,	Laborer,	25	M.	Alice No. 2,	Westmoreland,	Back injured by a fall of roof coal.
	5.	Andrew Helgrin,	Miner,	50	M.	Penn Gas No. 4,	Westmoreland,	Leg broken by a fall of slate.
	26.	Henry Brookgauser,	Miner,	38	M.	Penn Gas No. 4,	Westmoreland,	Foot crushed by a fall of slate.
	29.	Robert Boyel,	Miner,	39	M.	Oak Hill No. 4,	Allegheny,	Compound fracture of thigh by a fall of slate.
Mch.	19.	Frank Spirar,	Miner,	24	S.	Export,	Westmoreland,	Spine fractured by a fall of slate.
	28.	Simon Visme,	Miner,	29	S.	Export,	Westmoreland,	Leg fractured by a fall of slate.
April	8.	Andrew Vasco,	Miner,	28	....	Export,	Westmoreland,	Leg broken by a fall of roof coal.
	30.	Michael Beall,	Miner,	50	M.	Penn Manor shaft,	Westmoreland,	Leg fractured by a fall of slate.
May	26.	Michael Wexselbuger,	Miner,	37	M.	Penn Gas No. 2 shaft,	Westmoreland,	Arm broken by being caught between wagon and post.
July	10.	Edward Shaner,	Miner,	15	S.	Ocean No. 1 shaft,	Westmoreland,	Leg broken by being caught between a post and fall of coal.
	18.	William Price,	Driver,	42	M.	No. 1 "A" shaft,	Westmoreland,	Two ribs fractured by being caught between wagon and rib.
	24.	John Denmer,	Miner,	20	S.	Carbon,	Westmoreland,	Foot mashed by a fall of slate.
Aug.	11.	Michael Daly,	Miner,	50	S.	Penn Gas No 2 snaft,	Westmoreland,	Arm broken by a fall of slate.
	18.	Andrew McKelvey,	Driver,	27	M.	Penn Gas Coal Run,	Westmoreland,	Leg broken by being caught under a wagon.
	29.	James Smith,	Driver,	30	M.	Oak Hill No. 4,	Allegheny,	Leg broken by being caught between a wagon and rib.
	31.	John E. Davies,	Laborer,	38	M.	Penn Gas No. 2 shaft,	Westmoreland,	Arm broken by being caught between a plank and the roof.

Table No. 5.—Continued.

Date of accident.		Name of Person.	Occupation.	Age.	Married.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Sept.	3,	Patia Antonio,	Miner,	56	S.	Millwood shaft,	Westmoreland,	Leg broken by a fall of slate.
	4,	James Marshall,	Miner,	40	M.	Avona,	Westmoreland,	Leg broken by a fall of slate.
Oct.	2,	John B. Molnar,	Miner,	29	S.	Penn Gas No. 2 shaft,	Westmoreland,	Leg broken by a fall of slate.
Nov.	17,	John Nugent,	Car trimmer,	28	M.	Export,	Westmoreland,	Arm broken by being caught between the bumpers of coal cars.
	19,	William Hall,	Miner,	17	S.	Oak Hill No. 4,	Allegheny,	Leg broken by a fall of roof coal.
	27,	William Mains,	Driver,	26	M.	Ocean No. 1 shaft,	Westmoreland,	Two fingers broken by being caught between wagon and rib.
Dec.	1,	George Walter,	Miner,	30	M.	Spring Hill No. 2,	Allegheny,	Leg broken and two fingers cut off by a fall of slate.
	3,	William Willhelm,	Miner,	24	S.	Ocean No. 1 shaft,	Westmoreland,	Leg broken by a fall of slate.
	8,	William Deeds,	Miner,	30	M.	Greensburg No. 1,	Westmoreland,	Arm broken in two places by a fall of roof coal.
	19,	John Kelly,	Miner,	57	M.	Hampton,	Allegheny,	Two ribs broken and otherwise injured about the body by a fall of slate.

THIRD BITUMINOUS DISTRICT.

(ARMSTRONG, BUTLER, CLARION, INDIANA, JEFFERSON, LAWRENCE, MERCER, WESTMORELAND AND BEAVER COUNTIES.)

Mercer, February 8th, 1897.

Hon. James W. Latta, Secretary of Internal Affairs:

Sir:—In compliance with the requirements of the eleventh section of article ten of the Bituminous Mining act, approved May 15th, 1893, I herewith submit my annual report of the inspection of the mines in the Third Bituminous District for the year ending December 31st, 1896.

I am exceedingly glad to report a decrease of 57 per cent. in the number of fatal casualties and 26 per cent. in the number of non-fatal ones as compared with the number that occurred in the preceding year. And this very gratifying comparison holds true even if we compare the results in these two years with the coal production and the number of persons employed in the mines of the district.

The number of fatal and non-fatal casualties and how caused are set forth in the following table:

Classification of Casualties	1896.		1895.	
	Fatal.	Non-fatal.	Fatal.	Non-fatal.
By falls of roof,	1	4	3	5
By falls of coal,	2	9	1	9
By mine wagons,		3	2	3
By explosions of powder,		1	1	4
By miscellaneous causes,		4		
Total,	3	17	7	21

The three deaths during the year made two women widows and fourteen children orphans.

The following is a comparative summary of the statistics as compiled from the official returns to this office from the operators of the district for the last two years:

	1896.	1895.
Number of mines in the district in operation,	72	72
Number of miners (men and boys), in district,	4,684	4,954
Number of "day men" employed inside of mines, including mine foreman and trapper boys,	694	749
Number of day men employed outside of mine,	586	579
Total number of persons employed,	5,964	6,282
Number of short tons of coal produced,	3,243,850	3,254,947
Number of short tons of coal produced per fatal casualty...	1,081,283	464,992
Number of short tons of coal produced per non-fatal casualty,	190,817	141,519
Number of persons employed per fatal casualty,	1,988	897
Total number of days the mines were in operation,	13,436	13,922
Average number of days worked at the mines,	186 6-10	193 3-10

It will be observed from the foregoing table that over one million tons of coal were produced and nearly two thousand persons employed to one life lost.

In the safest and best regulated mines in the other parts of this country a production of about 300,000 tons of coal and about 400 persons employed per life lost, is considered a very gratifying showing.

In view of these facts, extended comments on the condition of the mines in my district is unnecessary as the report speaks volumes for itself. Compared with other mining districts (where conditions are similar) the world over, better results can not be shown; consequently the beneficial effects relative to the protection of the lives and limbs of the persons employed in and about the mines, resulting (in a very large measure) from the judicious enforcement of the provisions of the present mining law, together with our present system of mine inspection, is very apparent.

The coal trade remains in about the same condition as that prevailing last year in this district, and there is much room for improvement. In giving the average number of "days worked" for all the mines in the district during the year, there were twelve of the seventy-two that were in operation from fifteen to one hundred days only, and in the year 1895, there were eight of the seventy-two mines worked one hundred days, or less.

The district (with a very few minor exceptions) has been free from "lockouts," strikes or other labor disturbances during the year, and the principal reason for so much broken time was generally from a lack of trade.

A description of each fatal and non-fatal accident, at each mine, the statistical matter in the usual tabulated form, also deaths from natural causes in the mines, and other topics in connection with mining, are discussed; such as mining legislation, mining machinery and Cottage State Hospital for Injured Persons, etc. All of which is respectfully submitted.

Yours very respectfully,

THOMAS K. ADAMS,
Inspector.

DEATHS FROM NATURAL CAUSES.

There were two miners who died in the mines of this district during the year from natural causes. On the 28th of May, Mike Kennedy, a single man, miner, aged 42 years, died of heart disease in the Sterling mine, Beaver county. He had been mining coal until the afternoon of that day, when he left his room for some purpose, and had only proceeded a few feet on the butt entry road from the entrance to his working place, when he dropped dead almost in sight of three other workmen. This is the mine in which the electric mining machines were installed, the electricity being conveyed to them by what is known as the "Three Phase system," and owing to the electric wires being conveyed along the side of the entry pillar, it was thought that Kennedy had come in contact with the live wires and had died from the effects of the electric shock; such was not the case, however, as far as we could ascertain after making a thorough investigation. The coroner of the county and myself held separate investigations; and a post-mortem examination was held by the resident physician in the presence of the coroner, at which it was proven beyond a doubt that Kennedy died from a "clot" of about one inch long being found near the heart.

On the 7th of December Andrew J. Lengauer died of heart disease in Stoneboro Mine No. 3, in Mercer county. Lengauer was seen outside of the mine at 6.30 o'clock A. M. and reached his working place in the mine about 7 o'clock and was found dead at 7.40 o'clock. He loaded one mine car with coal in the meantime. Immediately thereafter one of the other miners working near him heard him moaning, and before he returned with help Lengauer was dead.

COTTAGE STATE HOSPITAL.

The Cottage State Hospital for Injured Persons, which is located at Mercer, Pa., in this district, was visited by me recently. This is one of the State institutions in which many of the miners of my district find an asylum for care and treatment; duty therefore suggests to us more than a mere ordinary interest in the success of them. At the time of my visit to the institution there were twelve patients being treated. We found two of our injured miners, one of

whom is recovering, while the other, whose internal injuries are of such a nature that he cannot recover.

At this hospital there were eighty-two surgical cases treated during the year ending December 7th, 1896, and practically all have recovered. There are only five exceptions where no improvement is observable, and one death only occurred during said period, which was caused rather from the severe internal injuries at time of accident than from the effects of the surgical operation. This is a record, that all who are in any way connected with the management of the hospital, either in the capacity of trustees or as other officials, may well feel proud of, and it also should be very gratifying to the people of this Commonwealth, from whose bounties such institutions are being supported, to know that the wards of the State are being so well taken care of. I found the hospital a perfect palace of neatness and cleanliness, and everything in good order, and do most heartily urge the miners of my district, who receive injuries of whatever character, to go there for treatment. They can be assured of the greatest care and most skillful treatment. I found those in immediate charge of the institution people of the highest degree of intelligence in the line of their profession; they are kind, careful, courteous and obliging. All patients are skillfully treated and well cared for. The patients who have been under treatment there, all speak in the highest praise of this hospital.

Dr. Weidman, the surgeon in charge, is very skillful and diligent, kind to the patients and devoted to the institution. The matron, Miss Walker, and a few other employes under her charge, are all faithful in the performance of their duties.

Since the State has done so much it should not be forgotten by our State Legislators, that these institutions must be properly equipped and maintained in order to render the best and most efficient service. They must see that efficiency is not sacrificed on the altar of economy. The hospital certainly needs a separate surgical room in which to perform operations, as there is only one small room, which is now used as an operating, drug and dressing room; that is, in which the wounds of convalescent patients are dressed. An operating room specially set apart for that purpose should by all means be provided for at once.

While the two wards are all that could be desired both in neatness, cleanliness and convenience, yet offensive odors are, at times, given off, which permeate the atmosphere of the ward, and sometimes erysipelas takes place from the wounds of patients, which is a dangerous disease, and to protect the other patients from such, there should be provided at least two rooms, separate from the main wards, where patients could be isolated from the others, while such conditions exist.

I would strongly urge upon our legislators the necessity of appropriating a few thousand dollars extra for this hospital so that these additional rooms may be provided and the best service be rendered. By the appropriation of a few thousand dollars the State would have a first class building of ample size to meet all demands of a district like this.

If the time has arrived in the history of mining operations that the appointment of a chief Inspector is though necessary to afford better protection to human life, limb and health I, as an Inspector, will raise no objections, but by all means do not make the office a kind of a sinecure for a man out of a job. A chief Inspector, who has had large practical experience in mines, together with a theoretical knowledge of mines and mining would certainly render valuable services to the State and be of great assistance to the mine inspectors. A man of this character and attainments would be a valuable aid to the mine Inspectors for consultation and advice. He also could go into the mines, if necessary, and see whether or not the laws were being fully complied with, and in important cases before the courts, he could appear as an expert witness and in this way render great assistance to the District Inspectors. Unless these suggestions or something similar to them be carried out, the office would be for all practical purposes useless; the people's money wasted, the machinery in putting the provisions of the mining acts into force complicated, and the department or bureau a great source of annoyance to all parties subject to the requirements of the law.

From what I have said it must not be inferred that I am opposed to the passage of any legislative measures necessary to throw around our fellow citizens, who have to earn a livelihood in the mines, all the safeguards known to science and which have been proved by practical experience for their protection, yet, with due regard for all this, we must not allow our better judgment to be warped by mere sentiment. We must remember that some of the most dangerous mines in the world are found in Pennsylvania, and things will happen therein, which will be appalling to us. What we must aim at, however, is to urge only such measures as will give real safety against the repetition of such mine disasters as took place recently in our State, and we should oppose any measure, the tendency of which would be to lull us into false security.

I am not opposed to the principle of creating the office of Chief Mine Inspector, as his Excellency, the Governor, has suggested in his annual message to the Legislature; and in harmony with the spirit of that message, I would recommend in addition to the appointment of a chief Inspector, that a deputy chief be provided for also. My reason for this recommendation is the fact that this

State in developed coal area, in production of coal and the number of employes, is far in excess of that of any other State of the Union. For instance, compare statistics with that of our neighboring State, Ohio, where there is a chief mine Inspector. Pennsylvania has a production of nearly seven and one-half times greater than Ohio and there are nearly eight times more employes in our mines than in those of our sister State; consequently, if better security is provided in the States that are provided with chief mine Inspectors, certainly to carry out the principle to its logical conclusion we ought, at least, have two men (a chief and a deputy chief) possessing expert qualifications, and it should be understood that one of these men should be experienced in the mining methods of the Anthracite regions, and the other with similar qualifications in the Bituminous region. I think that this idea of having two expert men is absolutely necessary to render such legislation effective.

Should such legislation meet the approval of our law makers, I would advise that a bureau of mines and mining be created, similar to that of the Bureau of Industrial Statistics, within the Department of Internal Affairs and under the control of the Secretary thereof, with the chief and the deputy chief to be appointed by the said Secretary, subject, however, to the approval of the Governor. The chief Inspector to be a man of expert knowledge and with a wide experience in matters pertaining to the safe, healthful and economic operations of mines.

MINING MACHINES.

It is only a question of time when the most of the coal from the larger mines of the Bituminous regions will be produced by the use of mining machines. The under-cutting which has always been the most laborious part of the miner's work will be done in the near future by the mining machines wherever they can be advantageously employed, and the companies are financially able to introduce them. However, in my opinion, the economic value of this type of machinery lies greatly in the imagination of the manufacturers. The benefits, if any, to be derived from the use of such machinery will not accrue to the mine operator, but, if successful, they may benefit the consumer. Their introduction now may give a temporary gain to the operators, who are first to introduce them, but their general use will eventually leave the mine operator with profit balance not increased, but he will be sure to have an increased amount of capital invested. In fact, with the low prices now paid for pick mining, the miner is striving hard for mastery over the machinery, and, in one mine at least in my district, where an electric mining plant was installed, the miner has won a complete victory in the competition in the

price of mining and the machines, from this fact, are out of use, for the present, at least.

There are two types of mining machines now in use in my district, viz: the Harrison and Ingersol, which are almost identical in principle, and have compressed air for their motive power, and the chain or link cutter bar machine, deriving its power from electricity by the "Three Phase" alternating system.

The "Harrison and the Ingersol" are what they call punching machines. They deliver the blow of the pick (which is guided by the man at the handles of the machine) similar to the piston motion of an engine or pump. The men who hold and control those machines for a few years in succession, will, in my opinion, become physical wrecks. This kind of labor is far more injurious to a miner than if he were mining or "bearing in" with a pick. The whole body of the machine man is jarred at every blow of the machine and every muscle becomes strained and so set that he almost becomes a part of the machine itself, which, if continued for a few years, will unfit him from performing other kinds of manual labor and the lungs of both the machine man and his assistant or "scrapper" will very soon be coated with coal dust, as a great deal of it is produced by the use of the above machines. The other type of machine which has the cutters set in a revolving chain will not have the same bad physical effect on the machine man, because after the machine is put in position for cutting and the electric current is turned on, he is under no physical strain whatever, but sits down and watches the machinery do its work, until it has reached the regulation depth.

Both the Harrison and Ingersol machines are on wheels, and can be moved from place to place in the mine very expeditiously, as the former does not exceed 800 pounds in weight, and the latter not over 600 pounds, while the electric machines are from 2,600 to 3,000 pounds in weight, thereby making them very unhandy to move from place to place. There are twenty-nine of the Harrison type of machines at the Big Soldier Run and Sprague Mines, and ten of the Ingersol, at Beaver mine, and three of the chain cutter pattern at the Sterling mine, Beaver county, now in operation in this district. The prices paid, at the Big Soldier and Sprague Mines, at Reynoldsville, for machine mining, the coal seam ranging in thickness from 5½ feet to 7 feet, are as follows: (for run of mine coal on a basis for pick mining of forty cents per ton) for machine man, 7½ cents per ton, for scrapper or assistant, 2½ cents, and for the man who shoots down the coal and loads it and lays the track and posts the room, which is 21 feet wide, 19 cents per ton, which equals 25 cents, and with two cents per ton additional, the air pipes (which range from 1¼ inches to 8 inches in diameter) are bought, the ma-

chines are kept in repair, and supplies for same kept up. There are from ten to twelve men employed for each machine. About 3,000 tons of coal are being produced by those machines daily. One Harrison machine cuts in one month, or about 23 days, 2,400 tons. The machines cut from 70 to 100 tons per day each.

At Beaver mine, Lawrence county, the Ingersol machines are in a 3-foot seam of coal; each cuts about 28 tons of lump coal (screen 1¼ inch) per day, working under very advantageous conditions, as the width of each breast (room) is about 198 feet.

The prices are as follows for screened coal by machines, on a basis of 70 cents per ton for pick mining, in narrow work such as air courss and entries: for cutting, 50 cents per ton, and for loaders, 45 cents; and in addition to these $1.40 per yard is paid for shooting down the roof in the entries and for "gobbing" the slate. For room work, 16 cents is paid for cutting, and 35 cents for loading the coal and 5 cents additional will keep up the repairs, etc., and buy the air pipes.

The three chain or link cutting bar electric machines, at the Sterling mine, Beaver county, have been thrown out of use for the present. The low prices paid for pick mining make it more profitable to produce coal in the old way; however, these machines were being operated at a great disadvantage, as they were mining in a part of the mine where the mining was so difficult that the miners would not dig the coal at the prices ruling in the district, and besides, those machines were required to do their cutting in a hard "clod" or hard clay band next to the floor of the coal seam. The coal was about three feet thick, and the three machines produced about 100 tons of lump coal (screen 1¼ inch) daily, requiring about 26 men (which includes the cutter, assistant cutter and loaders) to operate them to insure the above production. The prices paid on screened coal for machine mining, on a 50-cent basis for pick mining, was, for cutting: for cutter and helper, 15½ cents, for loading the coal, etc., 25 cents, engineer's wages, "bit boy" and oils, 8 2-10 cents; drilling and shooting coal, 3 cents; total, 51 7-10 cents per ton, and in addition it would require 6 cents per ton for supplies, interest on plant, and deterioration of the same.

At each setting of these machines, each of them make a cut of 3 feet wide and which reaches to a depth of from 4½ feet to 5 feet. Their great weight, especially when working in a thin seam of coal, militates against the machine's productive power. If the roof strata would allow a wider room to be driven than those at the Sterling mine (for instance such a width as exists at the Beaver mine, a single breast being 198 feet wide) the efficiency in productive power would be greatly increased.

When the roof slate is soft and close timbering is needed, or where not much space between coal face and the posts is required, the machines can not be advantageously employed. More clear space is required for the chain cutting type of machines than for those of the Harrison and Ingersol pattern. The current for the electrical machines was conveyed and produced by what is known as the "Three Phase" alternating system. They were running with a pressure of 450 volts, and having a strength of current of between 30 and 40 amperes. This is a heavy voltage and men coming in contact with the live wires would sustain a shock that would be anything but pleasant; consequently, unless those wires are well insulated and otherwise protected and removed from all traveling ways, a new source of danger is being introduced into the mines; but if special care be taken at their introduction, the dangers that might otherwise arise from them will be eliminated.

Where such wires are in use in my district I had the managers put the live wires into the air courses, removed from the traveling ways and at the junction boxes, where branch wires were required to be conveyed to machine rooms on the opposite of entries from the air course side, I suggested the cutting of grooves in the solid roof strata conveying the wires in them, so that the heads of the workingmen, when passing to and fro on the entries, would not come in contact with them. These suggestions were carried into effect.

DESCRIPTION OF MINES.

Mines in Armstrong and Clarion Counties, Situated on the Allegheny Valley Railroad.

There were nine mines in operation along this railroad during the year. The Glen, Catfish Run, Eagle and Mineral Ridge mines have been in operation reasonably steady during the year while the others in this division of the district have not averaged one-half of working-time.

Riverview.—This mine at date of my last visit was in a very satisfactory condition. A portion of the workings are under water by reason of which they cannot be operated at present, but no danger whatever exists to the workingmen from this source. The ventilation and drainage in all the working parts of the mine were exceptionally good, at the date of my examination. With the 16 foot diameter ventilating fan running at forty-eight revolutions per minute, I measured in circulation 30,780 cubic feet of air per minute, which was being fairly well distributed to the extreme end of the workings.

Eagle.—I measured 5,750 cubic feet of air per minute in circulation in this mine. Since the mine foreman was changed the mine has been considerably improved. The ventilation has been increased, especially at the inner workings of the mine. The drainage has also been improved and the mine is now in very good condition.

Mineral Ridge.—The working territory of this mine is not extensive and the workings are back in the hill nearly one and one-half miles.

I measured about 6,000 cubic feet of air in circulation per minute near to the face of the entry. The drainage was reasonably good.

Church Hill.—Owing to this mine having been shut down for nearly nine months during the year, it was badly out of repair, at the date of my visit. The roof in many places had fallen to such an extent as to shut the air courses, consequently, the air current could not reach the face of the workings. There were very few men at work in the mine, however.

Catfish Run.—Having gone to examine this mine early in the morning, I found but little fire in the ventilating furnace. After having made my examination of the mine and again returned to the furnace, I found a good fire in it and measured about 15,500 cubic feet of air per minute passing. Although the ventilation was sufficient for such a mine, much of this volume of air was lost through leakage at the various doors, placed at the mouth of the rooms, before it reached the face of the entries. The mine was in very fair condition, but could be improved very much by proper attention to the small details incident to conducting air currents.

Hardscrabble.—Has been shut down during the last half of this year. When I last examined the mine I found it in very good condition both in regard to ventilation and drainage. I measured about 16,440 cubic feet of air per minute in circulation throughout the mine.

Pine Creek.—At the date of my last visit to this mine, the company had just started operating it again, after a shut down of about three months. I found the mine in very fair condition. The drainage was good and I measured 9,900 cubic feet of air in circulation, which was sufficient for the number of men employed.

Glen.—At my second last visit to this mine I found the ventilation very defective, owing to the roof having fallen and shutting in some of the main air courses. I also found that while a room was being driven off No. 3 butt entry, a miner struck into an old abandoned oil or natural gas well, and upon taking away the coal from around it they found natural gas escaping into the mine. They ignited the gas at the well in the mine and kept it burning day and night by having a burning torch placed at the exposed part of the well in

the room. I ordered the well to be sealed with cement, which was done. I also, at that visit, ordered a new air course to be driven. At my last visit I found that these orders had been obeyed and that the mine was in much better condition. At my last examination I measured 11,000 cubic feet of air per minute passing and a fair portion of it was in circulation near the face of the workings.

Mahoning Mine.—Not being in operation until about the end of the year it was not examined.

Mines Located on the Low Grade Division and the Sligo Branch of the Allegheny Valley Railroad.

There are eleven mines situated in this portion of the district. Fairmount Nos. 2 and 3, Star No. 5 and the Brier Ridge mines have been in operation very steadily during the year, while the others have scarcely made half time.

Fairmount No. 4 and Keystone No. 2 are new openings and have not yet been examined by me, owing to them not giving employment to a sufficient number of persons to bring them under the provisions of the mining law, at the date of my last visit. The Acme mine has not been in operation for the last three or four months.

Cherry Run.—This mine is being operated very steadily at present. Instead of hauling the coal from the mine up a heavy grade to the tipple platform, a small single engine has been erected under the tipple platform to haul the coal from a parting inside of the mine, a distance of 600 feet to the tipple platform outside. The volume of air passing through the mine was 13,600 cubic feet per minute, which was being fairly well distributed to the face of the workings. There was also good drainage.

Brier Ridge.—A great deal of trouble has been experienced with water at this place owing to the pumping machinery not being equal in power and capacity to keep the mine properly drained. The managers are exerting themselves to put off the "evil day" but it will come very soon, unless they apply the proper remedy, and that is by putting in the mine more powerful machinery than that in use now.

A ditch eight feet deep at some points is being cut to relieve some of the "dip" workings which are now under water and cannot be worked. The quantity of air in circulation is not sufficient at the face of the workings. There is a sufficient quantity of air coming into and going out of the mine, but the greater portion of it is lost through leakage before it gets to the part of the workings where the men are employed.

Acme and Diamond Mines.—These were in a reasonably good condition when I last examined them. In the Acme I measured about 13,600 cubic feet of air in circulation, but not one-half of it reached the inner workings, the greater portion of it being lost through leakage; however, there were only a few miners employed therein. The drainage of the mine was very good.

At the Diamond Mine a bad squeeze had overran the main entry and one of the butt entries. The cause of this, was a failure to leave sufficient pillars to support the very strong roof, which exists there, and also by allowing water to accumulate in the excavated parts of the mine, which softened the fire clay floor, thereby destroying the resisting power of what few pillars were left. I measured about 9,180 cubic feet of air in circulation, but hardly one-half of it reached the face of the entries, although, taking into consideration the extent of the workings and the number of persons employed, the mine was fairly well ventilated.

Avondale.—Was well ventilated and drained and the mine was in very good condition generally. There was 7,590 cubic feet of air being produced, nearly all of which was being conveyed to the face of the two butt entries that were being driven.

Oak Ridge.—Was in its usual good condition. The ventilation was fully up to all requirements. There was a volume of 41,000 cubic feet of air per minute passing through the different divisions of the mine, which was being distributed to the face of the workings. The mine was very well drained, except one butt entry, which was very wet and muddy.

Fairmount Nos. 2 and 3.—These mines have been operated very steadily during the year. The upper, or No. 3 mine, is very difficult to keep well drained, owing to the large quantity of water produced therein. The mine floor being a soft fire clay, the hauling roads are hard to keep in good condition, consequently some of them are very wet and muddy, although a great deal of money is spent to keep them clean and dry. The ventilation in the different divisions of No. 3 is reasonably good. I measured 14,440 cubic feet of air passing, which was very well conveyed to the face of the different face and butt entries. No. 2 mine was in excellent condition generally. The ventilation was ample and drainage good. There were 19,500 cubic feet of air per minute in circulation. This was measured near the face of the works.

Star Nos. 5 and 6.—These two mines were in excellent condition, at date of last visit. No. 5, which was opened on the Lower Freeport seam, has become exhausted, and No. 6 mine, which is opened on the Upper Freeport seam, will be exhausted in February, 1897. The ventilation was sufficient and drainage good in each mine. In

the upper mine I measured 15,960 cubic feet of air per minute, which was being well conducted to the face of the workings.

The Fairmount No. 4 Mine now being in progress of development will take the place of the two Star Mines. The company having begun to ship coal from the former mine.

Mines Situated at Reynoldsville, Jefferson County.

There are five mines in this region, three of which have been in operation steadily during the year, while the two others have had much broken time.

Sherwood Mine.—Has not been operated for some months, and was not in operation at the time of my last visit.

Hamilton.—Was being operated with only about sixteen miners, at the date of my last visit, but I found the mine in very fair condition.

The Henry Mine.—Was in excellent condition, when last examined. The volume of air in circulation was sufficient and the mine drainage was good. There were 12,480 cubic feet of air in circulation, distributed well to all parts of the mine.

Sprague.—All the workings in this mine lay to the "dip" of the coal seam, thereby increasing the cost of haulage in taking out the coal by this opening, but a level has been driven from "Big Soldier Run mine" along the extreme "dip" of the coal property and in the near future the coal will be taken out by way of the Big Soldier Run Mine by a system of tail rope haulage. In fact, this level from Big Soldier Run will cut off the entire Sprague mine property in a short time. Much of the coal here is being mined now by the use of the Harrison mining machines. I found the mine in very good condition both in regard to ventilation and drainage. There were 36,260 cubic feet of air per minute passing throughout the entire workings of the mine.

Big Soldier Run.—Another system of rope haulage has been placed in position to haul the coal from the Sprague Mine territory, a distance of over one mile. The hauling rope is 7,535 feet in length from the drum to the siding inside the mine, and the tail rope is about 15,170 feet long. The engines and drums for the additional system of hauling were placed in position by the Webster, Camp & Lane Machine Company, of Akron, Ohio, and the ropes by the Washburn, Moen Manufacturing Co., of Pittsburg, Pa. The size of the double engines is 20x32 each. The shell diameter of the drums is eight feet and the steel shaft is ten inches in diameter. With this additional haulage plant, the managers of this very extensive operation, believe that they can increase the output to over 4,000 tons of coal daily, and their expectations may be realized as they have produced in one day with their single rope

system 3,300 tons. The large output of coal at this mine is practically all mined by mining machine of the Harrison type. They have in operation twenty-six of these machines, which are equal to fifty, owing to twenty-four of them being run also at night.

The total quantity of air is divided into several separate splits and conveyed in this way to the different divisions of the mine. There was in circulation about 98,560 cubic feet of air per minute, which was very well distributed to all the working parts of the mine.

Mines Situated in Lawrence and Beaver Counties.

In this division of the district there are twelve mines now in active operation. Penn mine has been shut down for some time, while Beaver Falls and Clayton Mines are not at present subject to the requirements of the mining act. Baker and Clinton Mines have been abandoned during the year.

Cannelton Mine.—Is a small operation and as the company is only mining out coal blocks, that were left in an old mine worked years ago, there is not much regularity in the methods of working out what coal is left. The drainage of the mine was not very good while the ventilation was fair.

Darlington.—At this mine the floor is of fire clay of a very superior quality. It is taken up in the rooms by the miners and sent outside to the brick works, which are located near the mine tipple, and there ground and manufactured into fire bricks, etc. Some of the ground clay is shipped to other points. The seam of coal here is about two and one-half feet thick. The mine was in reasonably good condition both in regard to ventilation and drainage. There were 4,200 cubic feet of air in circulation. The mine is ventilated by a small furnace. The tipple and outside structures generally are of a very substantial character.

Butts Cannel Mine.—Was found to be in splendid condition both in regard to drainage and ventilation. I measured 24,100 cubic feet of air per minute, which was conveyed to the face of the works.

Sterling.—At this work the company had installed an electric plant and at my last visit they had in operation three electric mining machines, of the chain cutter type, manufactured by the General Electric Company. The power is conveyed to the machines by what is known as the "Three Phase" system. They were doing excellent work. The mine I found was in reasonably good condition. Twenty-three thousand five hundred cubic feet of air per minute were being distributed throughout all the working parts of the mine.

State Line.—There were being produced at this mine 25,600 cubic feet of air per minute. Much of this however did not reach the inner workings, as much of the total volume was lost through leak-

age, and in fact not much air could reach the face of a few of the entries owing to some of the rooms having fallen in during the strike, thereby closing the air courses near the face of these entries. The drainage of the mine was very fair.

Wayne.—This is a new operation. A short slope is driven down to the coal, which is about two feet thick. After crawling into this "Dog hole" I found about sixteen persons employed therein. There were about 2,000 cubic feet of air in circulation near the foot of the slope, but not at the face of the work. The operator thought he was not subject to the requirements of the law. Mr. Wayne promised to comply with the requirements of the mining act forthwith.

Thompson Run.—This mine has been in operation only about one-third time during the year. There were in circulation about 11,000 cubic feet of air per minute, the most of which was being taken to the face of the works. The drainage was fairly good.

Connessing.—The seam of coal at this opening is only about two feet three inches thick. I measured at the date of last examination about 12,000 cubic feet of air per minute being produced, which was being well distributed throughout the workings of the mine. A new furnace was built during the year, the size of which is 6x4. The drainage of the mine is very good.

Rock Point.—The front hill next to the railroad in which this mine was first opened has been exhausted, and the works have been opened up anew in the second hill. A new ventilating furnace the size of which is 6x4x15, and an air shaft 6 feet square and sixty-two feet deep, have been built and sunk during the year. The furnace was producing 12,375 cubic feet of air per minute, which was well distributed in the workings. The drainage was excellent.

Mehard.—I measured 7,620 cubic feet of air in circulation in this mine, but the furnace had a capacity for producing three times this volume, had a brisk fire been maintained in it. The air current was not strong enough at the face of the different entries; otherwise the mine was in splendid condition.

Excelsior Mine was well ventilated but the main hauling road was too wet and muddy, the ditches along the side of it having been neglected. I measured 14,000 cubic feet of air per minute in circulation, which was well conveyed to the face of the works.

Mines Situated along the West Pennsylvania Railroad in Westmoreland and Armstrong Counties.

There are eleven mines in operation in this division of the district, which have been running only a little more than half time.

The Gilpin, Haddon, Blackstone, Bagdad No. 2, and Leechburg No. 4, which are practically all under the same management and all

opened on the same seam of coal, were in splendid condition both in regard to ventilation and drainage. The same methods of working out the coal and conducting of the ventilation prevail at each. The power used for producing the ventilation is the same, at all of those mines. The ventilating furnace, at Gilpin mine, was producing 23,800 cubic feet of air per minute; at the Haddon, 12,000 cubic feet; at Blackstone, 14,800 cubic feet; at Bagdad No. 2, 9,000 cubic feet and at Leechburg, No. 4, 23,000 cubic feet. These different quantities were double the volume of air that is required by law and in all the mines named the air was well distributed to the face of the workings. These mines are very dry, making the workings a very comfortable place for the employes.

The West Penn Mine.—Was in fair condition only. There was measured in this opening 8,500 cubic feet of air, which was fairly well distributed throughout the workings. The drainage in the working parts of the mine was very fair.

I found the Kirkpatrick Mine in splendid condition. The ventilation was ample, the drainage good, and the general condition of the mine as in other mines in this neghborhood was very good.

I measured 12,600 cubic feet of air in circulation in the mine and this quantity was near the face of the workings.

The Beale Mine as far as regards the ventilation was not in as good a condition as it might have been. The method of conducting the ventilation is defective, which is a natural result where no solid air courses are maintained, and where the driving of "Gob" entries is attempted. While I measured 12,000 cubic feet of air passing at the furnace, not one-half of it reached the inner workings. The loss was due to leakage. The mine was in reasonably good condition otherwise.

Pine Run Mine had only a few men working on the date of my last visit, and the furnace had not yet been fired up when I arrived, which was early in the morning. A fire was kindled while I was there (the mine was practically idle at this date) and I measured at the furnace 15,000 cubic feet of air per minute; after I had returned to it from my examination of the interior of the mine I found a small current of air at the face of the entries. Under favorable circumstances I would consider the mine in reasonably good condition.

At Avonmore Mine the inclined plane has been remodeled almost entirely, which now gives a substantial structure over which to drop the coal from the top of the hill to the tipple on the railroad. Between thirty and forty thousand cubic feet of air was in circulation in the two divisions of this mine, the most of which was properly conducted into the interior workings.

The drainage of this mine was also good. This is the only mine in my district, at present, that is producing coal from the Pittsburg seam, which is about seven feet thick here.

Riverview Mine is a new drift opening and in very good condition.

Mines in Mercer and Butler Counties, Situated on the Pittsburg, Shenango and Lake Erie Railroad.

There are twenty-one mines in operation at present in this part in the district. In addition to these, the old Spears, Enterprise and the Shenango mines have been temporarily abandoned. The old Chestnut Ridge mine has been exhausted during the year, but a new mine has been opened which will take its place in the list of mines. The Enterprise mine of Butler county is a small operation and was found in good condition in every respect.

Jewel Mine is also of very limited extent and was idle at the date of my last visit, but from appearances I would not consider the mine in the best condition.

Standard.—This is a slope opening, but the same machinery used for hauling the coal up the slope hauls the coal from a siding at a considerable distance in the mine, which is operated on the tail rope principle. The mine is ventilated by a fan eight feet in diameter with blades 2x6x2 and having a slight curve back into the circumference of the fan with inlets on each side of it 4 feet in diameter. The fan is directly connected with the engine and is made of iron. This fan running at one hundred revolutions, was producing 14,000 cubic feet of air per minute. The mine was reasonably well ventilated but the drainage was defective in No. 6 Butt entry. The seam of coal being mined here is in the Kittanning measures, and is about 2 feet 10 inches to 3 feet thick.

The Keister Mine was in splendid condition generally, but it will soon be exhausted; however, a new opening is being made to take its place.

At the Gomersal Mine the main entry pillars are being taken out, consequently, it will be exhausted early in the coming year; however, the opening of another mine adjacent to the exhausted property is in contemplation. The mine was only in fair condition.

Boyle Mine was not in operation at the date of my last visit and at a former visit to that region it was not being operated under the law, not having the requisite number of persons employed.

Mizner and Lake Erie No. 1 Mines.—The Mizner is in good condition both in regard to the drainage and ventilation. I measured 9,000 cubic feet of air in circulation, which was very well distributed throughout the workings. The Lake Erie No. 1 was in very fair condition except that the air current was not near enough to the face of the entries. There were 6,900 cubic feet of air per minute circulating in the mine, and the drainage was reasonably good.

Keystone Nos. 1 and 2.—At No. 1 mine a bad squeeze had overrun the main hauling way, which shut off the main working parts until they could be reached by another hauling way, which was about completed at the time of my last visit. At No. 2 a new furnace had been built, the size of which was 6 feet by 4 feet arch, which was producing 9,300 cubic feet of air per minute, and which was conducted well to the face of the entries. The drainage was reasonably good.

Black Diamond Nos. 1 and 2.—Diamond No. 2 was shut down at the date of my last visit, but had resumed operation again some time before the end of the year, but No. 1 mine has been operated very steadily during the year, producing from five to six hundred tons of coal daily. Both mines are usually in very good condition, although at a few points on the road the drainage was somewhat defective. There was being produced in No. 2 mine over 17,000 cubic feet of air per minute, which was conveyed very well up to the face of the works.

Hallville Mine had just resumed operations (after being idle for want of trade for about seven months) at the date of my last visit. Taking into consideration that the mine was idle for so long a time, it was in a reasonably good condition. There were 6,600 cubic feet of air in circulation to supply the very limited number of persons employed in the mine.

The Pardoe Mine has been operated very steadily during the year. I measured about 12,200 cubic feet of air in the interior of the mine, but it was not circulating near enough to the face of the workings. The drainage is not very good in this mine, and owing to the many local "dips" encountered therein, it is almost an impossibility to have effective drainage maintained.

The Carver Mine.—Little or no work has been done in this mine during the year, owing to the lack of trade. The mine is in splendid condition and although it produces large volumes of water, effective drainage is maintained. The volume of air passing through the mine was 17,000 cubic feet per minute.

At the Stoneboro No. 2 Mine a fairly large volume of air was in circulation, but owing to the furnace being so far removed from the working parts of the mine, the air currents were not very strong at the face of the entries. There was a quantity of air in circulation of about 15,000 cubic feet per minute. The drainage was reasonably good for such a mine.

Stoneboro No. 3 Mine was in very good condition, as regards ventilation. I measured 9,700 cubic feet of air, which was well distributed in the working parts of the mine. The drainage was also very fair. These two mines have been operated very steadily during the year.

The Hill Mine has been operated very steadily during the year. It was found in very good condition both in regard to ventilation and drainage. There were 8,600 cubic feet of air in circulation in the mine. A new second opening was made during the year. A shaft 70 feet deep was sunk and fitted up with stairs for a traveling-way for the miners. This shaft has been sunk near the face of the workings, which makes it a convenient place of ingress and egress for the workmen.

The Ormsby Slope was in very fair condition generally both as regards drainage and ventilation. I measured about 15,000 cubic feet of air in circulation with about one-half of this quantity passing to the working parts of the mine.

Beaver Mine, located in Lawrence county, was in splendid condition, at the time of my last examination. There were 29,000 cubic feet of air passing into the mine and it was being well distributed to the interior workings.

A shaft has been sunk near the face of the workings and by the building of a stairway in it, a very convenient second opening and traveling-way has been provided for the use of the miners.

TABLE No. 1.—Showing Location, &c., of Collieries in the Third Bituminous Mine District.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Postoffice Address.
Acme	Acme Mining Company,	Clarion,	J. W. Hill,	East Bradv.
Avonmore,	Avonmore Coal Company,	Armstrong,	L. W. Hicks,	Leechburg.
Avondale,	Avondale Mining and Manufacturing Co...	Clarion,	James Mitchell,	Rimersburg.
Butts,	Butts Cannel Coal Company,	Beaver,	George Gould,	East Palestine, Ohio.
Blackstone,	Lewis Coal Company,	Westmoreland,	N. S. Hicks,	Leechburg.
Big Soldier Run,	Jefferson and Clearfield C. & I. Co.,	Jefferson,	John H. Bell,	Reynoldsville.
Black Diamond No. 1,	Filer, Sutliff & Company,	Mercer,	Frank Filer,	Mercer.
Black Diamond No. 2,	Filer, Sutliff & Company,	Mercer,	Frank Filer,	Mercer.
Bagdad No. 2,	Bagdad Coal and Coke Company,	Westmoreland,	N. S. Hicks,	Leechburg.
Beale,	J. G. Beale & Company,	Armstrong,	George Knepshield,	Leechburg.
Beaver,	Beaver Coal and Coke Company,	Lawrence,	H. K. Hartsuff,	Hoytdale.
Brier Ridge,	C. N. Shipman & Co.,	Clarion,	G. H. Moore,	Rimersburg.
Beaver Falls,	James Clayton,	Beaver,	James Clayton,	Beaver Falls.
Chestnut Ridge,	Filer, Westerman & Co.,	Mercer,	Enock Filer, Jr.,	Grove City.
Catfish Run,	Catfish Run Coal Company,	Clarion,	Charles J. Tighe,	Catfish.
Cherry Run,	Cherry Run Coal Company,	Clarion,		Rimersburg.
Clayton,	W. F. Clayton,	Beaver,	W. F. Clayton,	Beaver Falls.
Carver,	Carver Coal Company,	Mercer,	Frank Filer,	Mercer.
Connessing,	Connessing Coal Company,	Beaver,	J. Wylie,	Frisco.
Cannelton,	Morgan Coal Company,	Beaver,	H. V. Sanor,	Cannelton
Church Hill,	Church Hill Coal Company,	Clarion,	George Horner,	Dutch Hill.
Diamond,	Thomas Mitchell & Sons,	Clarion,	Wilson Mitchell,	East Brady.
Darlington,	Darlington Coal and Clay Working Co.. ..	Beaver,		Darlington.
Enterprise,	Peter Sherwin,	Butler,	Peter Sherwin,	Karns City.
Enterprise,	Enterprise Coal Company, Limited,	Mercer,	M. B. Hofins,	Grove City.
Excelsior,	Wampum Run Coal Company,	Lawrence,	J. B. Williams,	Wampum.
Eagle,	Eagle Coal and Mining Company,	Clarion,	Joseph Lehner,	East Brady.
Fairmount No. 2,	Fairmount Coal and Iron Company,	Clarion,	S. Taylor Sheaffer,	New Bethlehem.
Fairmount No. 3,	Fairmount Coal and Iron Company,	Clarion,	S. Taylor Sheaffer,	New Bethlehem.
Fairmount No. 4,	Fairmount Coal and Iron Company,	Armstrong,	S. Taylor Sheaffer,	New Bethlehem.
Gilpin,	Gilpin Coal Company,	Armstrong,	N. S. Hicks,	Leechburg.
Glen,	J. R. Smith,	Armstrong,	J. M. Foltz,	Manorville.
Gomersal,	Gomersal Coal Company, Limited,	Butler,	Wm. Ferguson,	Gomersal.
Hallville,	Grove Coal Company,	Mercer,	D. D. Morris,	Grove City.
Haddon,	Haddon Coal Company,	Armstrong,	N. S. Hicks,	Leechburg.
Hardscrabble,	Brady's Bend Mining Company, Limited...	Clarion,	C. F. Hartwell,	Oil City.
Hill,	Hill Coal Company, Limited,	Mercer,	William Jenkins,	Jackson Center.
Henry Bros.,	Henry Brothers,	Jefferson,	L. L. Henry,	Rathmel.
Hamilton,	Jefferson and Clearfield C. & I. Co..	Jefferson,	John H. Bell,	Reynoldsville.
Jewell,	C. A. Jewell,	Butler,	C. A. Jewell,	Grove City.
Keister,	George G. Stage,	Butler,	George G. Stage,	Greenville.
Keystone No. 1,	Turner Coal, Coke and Mining Co.,	Butler,	John L. Turner,	Ferris.
Keystone No. 2,	Turner Coal, Coke and Mining Co.,	Butler,	John L. Turner,	Ferris.
Keystone,	Keystone Coal and Mining Company,	Clarion,	George E. Henry,	East Bradv.

Kirkpatrick	Kirkpatrick & Co. Limited,	Clarion,	S. T. Sheff,	Leechburg.
Leechburg No. 4,	Leechburg Coal and Coke Company,	Armstrong,	Alfred Hicks,	Leechburg.
Lake Erie No. 1,	Lake Erie Coal Company,	Armstrong,	George Findley,	Hilliards.
Lake Erie No. 2,	F. A. Mizner,	Mercer,	Robert H. Mehard,	Hilliards.
Mehard,	Mehard Coal Company,	Armstrong,	C. W. H. Eicke,	Wampum.
Mineral Ridge,	Mineral Ridge Coal Company,	Westmoreland,	James Curren,	West Monterey.
Mahoning,	Valley Coal and Mining Company,	Armstrong,	Henry Williams,	Mahoning.
Oak Ridge,	Oak Ridge Coal and Mining Company,	Westmoreland,	F. W. Powers,	Oak Ridge Station.
Ormsby slope,	H. K. Wick,	Butler,	R. A. Steim,	Youngstown.
Ore Hill,	Ore Hill Coal and Land Company,	Butler,	Alfred Hicks,	Kittanning.
Pine Run,	Pine Run Coal Company,	Lawrence,	J. L. Murray,	Leechburg.
Pine Creek,	Pine Creek Coal Company,	Armstrong,	Edwin N. Ohl,	Mosgrove.
Penn,	Penn Coal Company,	Lawrence,	Enoch L. Filer,	New Castle.
Pardee,	Filer Brothers,	Mercer,		Grove City.
Riverview,	Riverview Coal and Mining Company,	Armstrong,		
Riverview,	Leechburg Coal and Coke Company,	Westmoreland,	X. S. Hicks,	Leechburg.
Rock Point,	Rock Point Coal Company,	Lawrence,	William Brown,	Chewton.
Royle,	Royle Coal Company,	Butler,	R. E. Royle,	Hilliards.
Sprague,	Jefferson and Clearfield C. & I. Co.,	Jefferson,	John H. Bell,	Reynoldsville.
Stoneboro, No 2,	Mercer Coal and Iron Company,	Mercer,	Robert P. Cann,	Stoneboro.
Stoneboro, No. 3,	Mercer Coal and Iron Company,	Mercer,	Robert P. Cann,	Stoneboro.
Shenango,				
Star Nos. 5 and 6,	Northwestern Coal and Iron Company,	Clarion,	S. Taylor Sheaffer,	New Bethlehem.
Sterling,	Sterling Coal Company,	Beaver,	George Gould,	East Palestine, Ohio.
State Line,	State Line Coal Company,	Beaver,	Hugh Laughlin,	East Palestine, Ohio.
Standard,	Peter Sherwin,	Butler,	Peter Sherwin,	Euclid.
Sherwood,	Jefferson and Clearfield C. & I. Co.,	Jefferson,	John Reed,	Du Bois.
Thompson Run,	Thompson Run Coal Company,	Beaver,	M. W. Ritchie,	Caylors Ferry.
West Penn,	West Penn Coal and Coke Company,	Westmoreland,		Leechburg.

TABLE No. 2.—Gives the total number of tons of coal mined and shipped in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder used, etc., in the Third Bituminous Mining District, for the year ending December 31, 1896.

Names of Collieries.	Location—County.	Total production in tons of coal.	Total production in tons of coke.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Number coke ovens.
Acme,	Clarion,	*6,500	.....	6,500	66	41	.....	.....	.....	1	3	.....	.....
Avonmore,	Armstrong,	55,000	.....	55,000	160	87	1	1	.....	.....	6	.....	.....
Avondale,	Clarion,	14,958	.....	14,958	131	46	.....	.....	.....	.....	5	.....	.....
Butts,	Beaver,	16,000	.....	16,000	165	54	.....	.....	140	1	2	.....	.....
Blackstone,	Westmoreland,	32,681	.....	32,577	234	74	.....	.....	360	.....	4	.....	.....
Big Soldier Run,	Jefferson,	697,343	13,775	674,258	258	659	.....	7	5,784	8	75	.....	100
Black Diamond No. 1,	Mercer,	111,157	.....	109,157	225	178	.....	.....	490	6	14	.....	.....
Black Diamond No. 2,	Mercer,	58,259	.....	57,259	150	116	.....	.....	150	6	6	.....	.....
Baddad No. 2,	Westmoreland,	14,150	.....	14,059	199	42	.....	.....	325	.....	3	.....	.....
Bagdad No. 3,	Westmoreland,	17,738	.....	17,638	252	23	.....	.....	100	.....	1	.....	.....
Beale,	Armstrong,	33,292	.....	33,292	200	54	.....	.....	400	.....	4	.....	.....
Beaver,	Lawrence,	50,132	.....	48,412	210	111	.....	.....	368	2	12	1	.....
Brier Ridge,	Clarion,	61,106	.....	61,106	225	104	.....	1	300	1	7	.....	.....
Beaver Falls,	Beaver,	4,924	.....	4,924	258	14	.....	.....	.....	.....	1	.....	.....
Chestnut Ridge,	Mercer,	21,590	.....	19,590	118	67	.....	.....	75	5	6	.....	.....
Catfish Run,	Clarion,	32,493	.....	32,418	267	62	1	2	105	.....	4	.....	.....
Cherry Run,	Clarion,	8,000	.....	8,000	100	50	.....	.....	.....	1	2	.....	.....
Clayton,	Beaver,	4,290	.....	4,250	198	12	.....	.....	20	.....	1	.....	.....
Carver,	Mercer,	37,482	.....	35,482	225	66	.....	.....	250	5	3	.....	.....
Connessing,	Beaver,	14,611	.....	14,611	313	48	.....	.....	160	.....	6	.....	.....
Cannelton,	Beaver,	14,035	.....	14,035	173	37	.....	.....	76	.....	3	.....	.....
Church Hill,	Clarion,	1,200	.....	1,200	30	27	.....	.....	.....	.....	3	.....	.....
Diamond,	Clarion,	20,000	.....	20,000	160	52	.....	.....	.....	.....	4	.....	.....

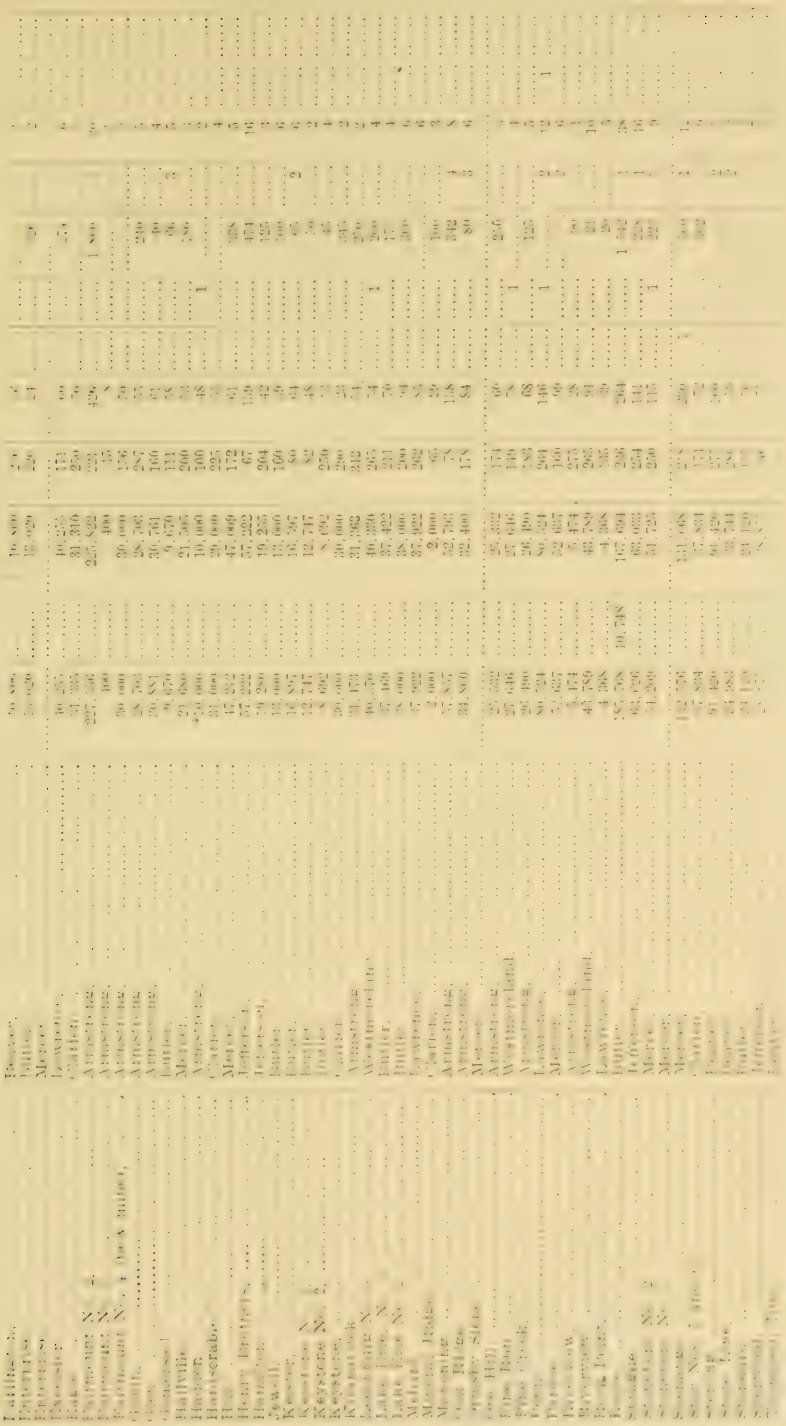


TABLE No. 2.—Continued

Names of Collieries.	Location—County.	Total production in tons of coal.	Total production in tons of coke.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Number coke ovens.
West Penn.	Westmoreland.	13,000	.....	13,000	200	27	.....	1	.....	.....	2	.....	.....
Baker.	Beaver.	10,298	.....	10,298	60	33	.....	.....	50	1	7	.....	.....
Wayne. *	Beaver.	*3,500	.....	3,500	100	18	.....	.....	.....	.....	.....	.....	.....
Total.	.....	3,243,851	24,523	3,175,296	13,436	5,964	3	17	18,103	66	481	2	100

*Approximated.

TABLE No. 3.—Showing the number of each class of employes at each colliery in the Third Bituminous Mine District, during the year 1896.

Names of Collieries	Location—County.	Number of Persons Employed Inside.						Number of Persons Employed Outside.					
		Inside foreman or mine boss.	Miners.	All company men.	Drivers and runners.	Doorboys and helpers.	Total Inside.	Blacksmiths and carpenters.	Engineers and firemen.	All company men.	Superintendents, bookkeepers and clerks.	Total outside.	Grand totals—Inside and outside.
Acme,	Clarion	1	30	1	3	1	36	1	1	2	1	5	41
Avonmore,	Armstrong,	1	68	2	6	2	79	1	.....	6	1	8	87
Avondale,	Clarion,	1	37	.....	3	.....	41	1	.....	4	.....	5	46
Butts,	Beaver,	1	40	1	2	.....	44	1	.....	8	1	10	54
Blackstone,	Westmoreland,	1	61	1	3	1	67	1	.....	4	2	7	74
Big Soldier Run,	Jefferson,	2	529	18	43	17	609	4	.....	42	4	50	659
Black Diamond No. 1,	Mercer,	1	140	5	12	4	162	2	.....	12	2	16	178
Black Diamond No. 2,	Mercer,	.....	94	4	7	2	107	1	.....	6	2	9	116
Baddad No. 2,	Westmoreland,	1	33	1	2	.....	37	1	.....	2	2	5	42
Bagdad No. 3,	Westmoreland,	1	18	1	1	.....	21	.....	.....	1	1	2	23
Beale,	Armstrong,	1	46	1	2	.....	50	.....	.....	3	1	4	54
Beaver,	Lawrence,	1	89	3	5	1	99	2	.....	7	3	12	111
Brier Ridge,	Clarion,	1	86	2	6	1	96	1	2	4	1	8	104
Beaver Falls,	Beaver,	1	12	.....	1	.....	14	.....	.....	.....	.....	.....	14
Chestnut Ridge,	Mercer,	1	45	4	6	2	58	1	2	4	2	9	67
Catfish Run,	Clarion,	1	50	2	4	.....	57	1	.....	3	1	5	62
Cherry Run,	Clarion,	1	40	1	3	1	46	1	.....	2	1	4	50
Clayton,	Beaver,	1	8	.....	1	.....	10	.....	.....	1	1	2	12
Carver,	Mercer,	1	48	3	4	2	58	2	.....	4	2	8	66
Connessing,	Beaver,	1	38	2	2	.....	43	1	.....	3	1	5	48
Cannelton,	Beaver,	1	28	1	3	.....	33	.....	.....	3	1	4	37
Church Hill,	Clarion,	1	20	1	2	.....	24	1	.....	2	.....	3	27
Diamond,	Clarion,	1	40	1	3	.....	45	1	.....	4	2	7	52
Darlington	Beaver,	1	30	1	1	.....	33	.....	.....	2	1	3	36

Table No. 3.—Continued

Names of Collieries	Location—County.	Number of Persons Employed Inside.						Number of Persons Employed Outside.						
		Inside foreman or mine boss.	Miners.	All company men.	Drivers and runners.	Doorboys and helpers.	Total inside.	Blacksmiths and carpenters.	Engineers and firemen.	All company men.	Superintendents, bookkeepers and clerks.	Total outside.	Grand totals inside and outside.
Enterprise	Butler,												
Enterprise	Mercer,	1	16	2	1	.....	20	.....	.....	4	.....	4	24
Excelsior	Lawrence,	1	42	2	5	1	51	1	2	4	2	9	60
Eagle	Clarion,	1	60	.....	2	1	64	1	.....	4	1	6	70
Fairmount No. 2	Armstrong,	2	331	10	28	8	379	7	6	30	4	47	426
Fairmount No. 3	Armstrong,	1	6	.....	1	.....	8	.....	.....	.....	.....	.....	8
Fairmount No. 4	Armstrong,	1	40	.....	3	.....	44	1	.....	4	1	6	50
Gilpin	Armstrong,	1	42	1	4	.....	48	1	.....	5	1	7	55
Glen	Armstrong,	1	48	2	3	1	55	1	.....	4	1	6	61
Gomersall	Butler,	1	41	3	4	.....	49	1	2	4	1	8	57
Hallville	Mercer,	1	42	1	3	.....	47	1	.....	4	1	6	53
Haddon	Armstrong,	1	40	1	2	.....	44	.....	.....	3	1	4	48
Hardscrable	Clarion,	1	40	2	3	.....	46	1	.....	3	1	5	51
Hill	Mercer,	1	51	.....	5	1	58	1	.....	2	.....	3	61
Henry Brothers	Jefferson,	1	116	3	9	2	131	1	.....	6	1	8	139
Hamilton	Jefferson,	1	35	2	2	.....	40	.....	.....	2	.....	2	42
Jewell	Butler,	1	29	1	4	.....	35	1	.....	3	.....	4	39
Keister	Butler,	1	49	2	5	.....	57	1	1	5	2	9	66
Keystone No. 1	Butler,	1	38	2	3	.....	44	1	.....	2	1	4	48
Keystone No. 2	Clarion,	1	9	.....	1	.....	11	.....	.....	1	1	2	13
Keystone	Armstrong,	1	20	.....	2	.....	23	.....	.....	.....	.....	.....	23
Kirkpatrick	Westmoreland,	1	47	.....	2	.....	50	.....	.....	2	2	4	54
Leechburg No. 4	Butler,	1	43	1	4	1	50	1	.....	2	1	4	54
Lake Erie No. 1	Butler,	1	58	1	4	1	65	1	.....	2	2	5	70
Lake Erie No. 2	Lawrence,	1	73	4	6	.....	83	1	.....	8	2	11	94
Mehard	Clarion,	1	70	1	6	.....	78	1	.....	5	1	7	85
Mineral Ridge													

Mahoning	Armstrong	1	77	1	1	...	33	.		4		6	2
Oak Ridge	Armstrong	1	99	2	9	3	114	2	1	1		24	1
Ormsby Slope	Mercer	1	65	3	6	1	76	1	1	4	1	8	8
Ore Hill	Armstrong												
Pine Run	Westmoreland	1	49	1	3	.....	54	1	.....	3		6	6
Pine Creek	Armstrong	1	65	1	4	.....	71	1	.....	4		7	7
Penn	Lawrence	1	53	3	3	.....	60	1	.....	4		8	6
Pardoe	Mercer	1	121	3	12	.....	137	1	3	4	1	9	14
Riverview	Armstrong	1	76	2	5	2	86	1	1	9	2	13	9
Riverview	Westmoreland	1	22	1	1	.....	25	1	.....	.....	2	3	2
Rock Point	Lawrence	1	73	2	6	.....	82	1	.....	6	2	9	3
Royle	Butler	1	30	1	3	.....	35	1	.....	2	1	4	3
Sprague	Jefferson	1	214	11	21	8	255	2	.....	7	.....	9	26
Stoneboro No. 2	Mercer	1	97	15	14	.....	127	1	1	10	2	14	14
Stoneboro No. 3	Mercer	1	86	7	8	1	103	1	3	6	2	12	11
Shenango	Mercer												
Star Nos. 5 and 6	Clarion	1	174	5	12	4	196	5	3	22	4	34	23
Sterling	Beaver	1	53	10	3	.....	67	1	.....	3	1	5	7
State Line	Beaver	1	123	3	5	1	133	2	3	21	1	27	16
Standard	Butler	1	46	1	3	.....	51	1	2	3	2	8	5
Sherwood	Jefferson	1	43	.....	2	.....	46	1	.....	2	1	4	3
Thompson Run	Beaver	1	61	1	5	1	69	1	.....	4	1	6	7
Wayne	Beaver	.....	15	1	.....	.....	16	.....	1	.....	1	2	1
West Penn	Westmoreland	1	22	1	2	.....	26	.....	.....	.....	1	1	2
Baker	Beaver	1	65	3	5	3	77	1	.....	4	1	6	8
Total		72	4,684	178	370	74	5,378	76	38	372	100	583	5,964

TABLE No. 4.—List of fatal accidents that occurred in and about the mines of the Third Bituminous Mine District for the year ending December 31, 1896.

Date of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Feb. 6,	Frank Beck,	Miner,	27	....	....	Star No. 5,	Clarion,	Was killed by a mass of coal falling upon him while he was under-cutting it. Owing to a "spar" or clay vein running through the entry piller, at which he was working, and there being no "sprags" or "leaners" set to brace the coal, the front portion of it became disconnected when the undercutting reached the clay spar. The fact that a clay vein did exist in the pillar should have prompted Beck to have exercised the greatest watchfulness. When the coal seam is disturbed with clay veins its adhesive properties are lessened, and all practical miners regard such disturbances as sources of danger, consequently they use extra precautions to insure their safety. This young man was considered a very careful miner, and always manifested a desire to obey the instructions given him by the mine officials.

	28.	David Smith,	.....	Miner,	...	43	Yes	7	Catfish Run, ... Clarion, ... Was killed by a fall of roof slate while mining. He was taking off the side of the main entry pillar, a "skip" or narrow strip of coal to make room for a siding or double parting. Smith was working on the night shift and had been cautioned by the mine foreman some few nights prior to the accident to use greater care than he had been doing in the supporting of the roof slate, as portions of it had become shattered from the shots which had been fired in the roof; but it would seem that he did not fully realize its dangerous condition.
Oct.	28.	J. F. Yates,	.....	Miner,	.....	38	Yes	7	Avonmore, ... Armstrong, ... Was killed by a fall of coal while mining. The deceased was taking out a room rib about twelve feet in width, and the coal seam at this point was about six and one-half feet thick, which was being excavated in two benches, the top bench being three feet thick. He lost his life by about two tons of coal of the top bench falling upon him while he was in the act of reaching under the top bench for mined lumps of the lower bench. His head was badly crushed between the coal and a prop. He was always regarded as a very careful miner and an intelligent man; however, at times he would risk too much, and had been warned against this very danger both by the mine foreman and myself.

TABLE No. 5.—List of non-fatal accidents that occurred in and about the mines of the Third Bituminous Mine District, for the year ending December 31, 1896.

Date of accident.	Name of Person.	Occupation.	Age.	Married.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 20,	William Wood,	Miner,	38	M.	West Penn,	Westmoreland,	Leg broken by a fall of coal while mining.
Feb. 26,	Thomas Hoon,	Repairsman,	50	M.	Hardscrabble,	Clarion,	Shoulder injured by falling on the ice at the mine.
Mch. 18,	George E. Stopp,	Trimmer,	28	S.	Brier Ridge,	Clarion,	Hand so badly injured between the bumper of railroad cars that amputation was necessary,
21,	Joseph Donahan,	Miner,	19	S.	Big Soldier Run,	Jefferson,	Arm broken by a fall of coal.
31,	William Hick,	Miner,	29	M.	Big Soldier Run,	Jefferson,	Leg injured by a fall of coal.
April 25,	Mark Snyder,	Laborer,	38	M.	Spears,	Mercer,	Shoulder injured by the wheel of a car falling down the shaft upon him.
Aug. 31,	John Greenfield,	Miner,	21	S.	Stoneboro,	Mercer,	Foot injured by a fall of roof slate.
Sept. 25,	H. E. Nicholas,	Miner,	66	M.	Catfish Run,	Clarion,	Left leg injured by a fall of coal.
25,	Mike Hivko,	Miner,	25	S.	Lake Erie No. 1,	Butler,	Sustained serious internal injuries by a fall of roof slate while he was mining out a room pillar. His injuries I am informed will prove fatal. He is now under treatment at the Cottage State Hospital, at Mercer, and has been in this institution ever since he received his injuries.

	26.	William Peters,	Repairman,		M.	Pardee,	Mercer,	Was very seriously injured by being caught under the roof debris from an exploded shot in the roof slate. Peters was shooting down the roof in one of the butt entries to make height for the mules, and the shot "hung fire," and thinking no doubt that the squib had missed fire, he was going through beneath the roof in which the charge of powder was held, and while doing this the shot exploded, burying him in the slate. It was certainly nothing short of a miracle that he escaped with his life. He is recovering.
Oct.	7.	Warren Hiles,	Miner,	26	S.	Catfish Run,	Clarion,	Finger mashed by mine wagons.
	8.	Charles Lockhard,	Miner,	28	M.	Avonmore,	Armstrong,	Back injured by a fall of roof slate.
Nov.	18.	Aers Tapper,	Driver,	27	M.	Big Soldier Run,	Jefferson,	Leg injured by a mine wagon.
	18.	J. P. Sharp,	Driver,	31	M.	Big Soldire Run,	Jefferson,	Foot injured by a mine wagon.
Dec.	1.	Augustus Freemstad,	Miner,	47	M.	Big Soldier Run,	Jefferson,	Slightly bruised by a fall of roof slate.
	3.	David Thomas,	Miner,	48	M.	Big Soldier Run,	Jefferson,	Slightly bruised by a fall of roof slate.
	5.	Joseph Barrett,	Miner,	21	M.	Big Soldier Run,	Jefferson,	Slightly bruised by a fall of "top" coal.

FOURTH BITUMINOUS DISTRICT.

(TIOGA, POTTER, BRADFORD, LYCOMING, CLINTON, CAMERON, MCKEAN AND ELK COUNTIES, AND ALL THOSE MINES IN CLEARFIELD COUNTY ADJACENT TO THE LOW GRADE DIVISION OF THE ALLEGHENY VALLEY RAILROAD; ALSO THE MINES ADJACENT TO THE CLEARFIELD AND SUSQUEHANNA BRANCH OF THE PENNSYLVANIA RAILROAD; ALSO THE MINES ADJACENT TO THE BUFFALO, ROCHESTER AND PITTSBURGH RAILROAD IN JEFFERSON AND CLEARFIELD COUNTIES.)

Blossburg, February 18, 1897.

Hon. James W. Latta, Secretary of Internal Affairs:

Sir:—I herewith submit my annual report as Inspector of Mines for the Fourth Bituminous Coal District of Pennsylvania for the year ending December 31, 1896, together with statistical tables compiled from the operators' reports returned to my office.

The returns show an aggregate increase of 468,416 tons, or a little over eight per cent. of production for the district over that of the preceding year, which is largely due to the increased use of mining or coal cutting machines. Two new ventilating fans have been erected making a total of twenty-nine in operation in the district. Two new furnaces have been erected for ventilation to take the places of old ones removed.

The total number of fatal accidents have been increased which is due to an explosion of fire damp at the Berwind shaft mine near DuBois, and the effects of after damp at the Adrian Slope mine, near Delancey. The number of non-fatal accidents is much less than for the previous year. The ventilation and drainage of the mines continues to be improved throughout the district. A report of the evidence taken at the coroner's inquest held at the Berwind Shaft mine soon after the accident, together with a plan of the mines, also a report of my investigation of the accident at the Adrian Slope mine is herewith appended.

Respectfully submitted,

JAMES N. PATTERSON,
Inspector.

Mining Statistics.

Number of mines in district,	66
Number of tons produced,	5,762,765
Number of tons shipped,	3,908,127
Number of tons of coke manufactured,	409,080
Number of days worked,	6,908
Number of miners employed,	7,420
Number of outside men,	1,438
Total inside and outside,	8,858
Number of horses and mules,	788
Number of mine locomotives,	26
Number of steam boilers,	101
Number of coke ovens reported,	1,659
Number of kegs of powder as per operators report,	31,525
Number of fatal accidents,	27
Number of non-fatal accidents,	19
Number of tons produced per each fatal accident,	213,435
Number of tons produced per each non-fatal accident,	303,302

Classification of Fatal Accidents.

By falls of coal,	8
By mine cars,	1
By falls of roof,	2
By explosion of gas,	13
By suffocation by after damp,	2
By fall of horseback,	1
Total,	27

Classification of Non-fatal Accidents.

By falls of coal,	7
By mine cars,	1
By explosion of powder,	6
By falls of slate,	5
Total,	19

DESCRIPTION OF MINES.

Bradford County Mines.

Long Valley Mines, Nos. 1 and 2.—I found these mines in very fair condition both in regard to ventilation and drainage. I found in No. 1 mine 8,260 cubic feet of air in circulation being well distributed to the face of workings. In No. 2 mine I measured 35,000 cubic feet of air in circulation which was being well distributed to the face of the workings. The drainage was good at both places.

Lycoming County Mines.

Red Run Mines.—These mines were operated steadily for the greater part of the year. Quantity of air in circulation when last measured in No. 2 mine was found to be 24,000 cubic feet, and in No. 3 mine 30,600 cubic feet; being well distributed to the face of the workings. This company has opened up two drifts during the year, one in the "B" vein and one in the "E" vein. They have installed an electric plant consisting of 120-H. P. McEwen engine and a 100-H. P. Jeffrey generator. Steam is supplied by two 120-H. P. boilers. The current generated is supplied to two electric locomotives which haul the coal from the mines, and also for the purpose of driving two Stine ventilating fans. Mine foreman, John Wright.

McKean County Mines.

Instanter Mine.—This mine is in favorable condition both as regards ventilation and safety. The average quantity of air passing at the outlet per minute is 12,400 cubic feet. This is fairly well distributed through the working places. The drainage is in fair condition.

Lyman Mine.—This mine is in good condition both as regards ventilation and drainage. I measured 6,900 cubic feet of air which was being well distributed throughout the workings. This mine is in good condition generally.

Elk County Mines.

Dagus Mines.—These mines were all found to be in good condition as to ventilation and drainage. In Dagus No. 2 they are opening up from Keyler Hollow Side, and when the headings which are being driven are finished, there will be a large field of coal developed which will undoubtedly make it the largest producing mine which the operators own. In connection with the drift from

Keyler Hollow they have put in a well constructed furnace, and at Dagus No. 3 they have erected a fan during the year. Those in charge take great pride in keeping the mines strictly up to the requirements of the mine law in every respect.

Hazel Dell.—This mine has been kept in a very fair condition during the year, with an average of 8,600 cubic feet of air passing the outlet per minute, well distributed through the workings. The drainage is also good.

Paine Mine was idle when I made my last visit.

Noble No. 1.—On date of my last visit the mine was in fair condition.

Noble No. 2.—This is a new mine employing at the present time about 30 miners. When last examined, its condition was reasonably good. The intention is to operate this plant by electricity.

St. Mary's Mines.—In fair condition when last examined. Mine foreman, Joseph Eddy.

Glen Fisher.—Idle the entire year.

Mead Run Mines, Nos. 2 and 3.—These two mines are in good condition. In No. 2 I measured 11,000 cubic feet of air per minute which was conveyed well up to the face of all the workings. In No. 3 I measured 30,100 cubic feet of air per minute. This volume is divided and well conducted throughout the workings.

Shawmut Mines, Nos. 1 and 2.—The general condition of these mines has been very good during the year, both for ventilation and drainage. In No. 1, I measured 18,480 cubic feet of air passing per minute which is well distributed throughout the workings. In No. 2, I measured 16,000 cubic feet of air passing at the inlet per minute, which is also well distributed. Mine foreman, T. G. Matthews.

Clinton County Mines.

Kettle Creek Mines.—These mines are in excellent condition in every respect. An abundant supply of air is distributed throughout the working places of the mines and the safety of the persons employed is carefully looked after. Everything is being done by the mine officials to have their mines at all times in good condition.

Jefferson County Mines.

Adrian Mine.—Was in fair condition when last examined.

They have enlarged that part of the main slope known as the "narrows," re-timbered it with oak timbers for a distance of 300 feet and made it sufficiently wide to accommodate two tracks. Also enlarged the intake air course to the full capacity of the fan throughout the whole length, and put in masonry stoppings along the main

air course, and masonry and iron overcasts. They have set one 28x30 three stage, high pressure compressor, put in a new eight-inch main for compressed air to run the mining machines and pumps, and a new five-inch line for high pressure air to run the locomotive inside. They have also put in a new air locomotive in sixth left heading in addition to the one already running in first right heading.

Walston Mines, No. 1.—Idle when I made my last visit.

Walston Nos. 2 and 3.—These mines were found in good condition as regards ventilation and drainage. Among the improvements made at these mines they have erected four new horizontal boilers of 120 horse power each, and have built a steel boiler house, on both the old plant and the additional new one. They have set two 28x30 Norwalk air compressors and built a brick compressor house over them, and run the eight-inch compressed air main line down the slope, and have put in a dozen mining machines.

Kurtz and Rinn Mine.—The general condition of this mine when last examined was satisfactory.

Brock Mines.—These mines were in fair condition when last examined.

Beachtree No. 2.—The general condition of this mine is good. A good supply of fresh air is forced through the various working places, the drainage is also good. Average quantity of air passing near the face of the different headings is about 8,000 cubic feet per minute for each heading and the total quantity produced by the fan is about 85,000 cubic feet per minute.

Beachtree No. 3.—In fair condition.

Eleanor No. 1.—Idle during the entire year.

Eleanor No. 2, or Slope Mine.—The general condition of this mine is excellent. The average quantity of air passing at the inlet per minute is 86,000 cubic feet. This volume is well distributed throughout the working places. The mine is also kept well drained.

Coal Glen Mines, Nos. 1, 2 and 3.—Everything about these mines is in good condition. The health and safety of the employes is well cared for in every particular.

London Mine.—I measured 19,000 cubic feet of air per minute in circulation. This volume was conveyed well up to the head of all the entries in three different splits; the drainage was reasonably good, and the general condition of the mine was well up to the requirements of the law.

Among the improvements made at this mine during the year were one additional 28x30 Norwalk air compressor and two Phenix boilers each 150-H. P., also a pair of haulage engines 18x24 and drums 6 feet in diameter. The engines were built by Lidgewood Manufacturing Co., and are equipped with M. A. Green's patent friction clutches,

making a model tail rope haulage plant. Coal is hauled from four different landings. The main rope is 5,000 feet in length, the tail rope is 10,300 feet. There is also a branch rope 2,700 feet in length. This haulage system is working very successfully and is hauling over 1,800 tons of coal per day. Two Erie City boilers each 112½-H. P. furnish the steam to run the engine. A boiler house 24x45 feet has been built. The engine house is 22x36 feet built entirely of corrugated iron. The grade of the track approaching and leaving the tipple has been improved to facilitate the handling of the mine cars.

Clarion No. 1.—This mine is nearly exhausted.

Clarion Nos. 2 and 3.—The general condition of these mines are good both in regard to ventilation and drainage. During the year they have opened up the coal property in county line section, which will hereafter be known as "Clarion No. 4." The openings are made in the Clarion veins. They have put in two drifts on opposite sides of the "County Line Run Hollow" connecting them by tramroads to a large double tipple which is about completed. The mine will commence with a capacity of about 500 tons per day which will be rapidly increased to 1,500 tons. In connection with these drifts they have put in two large furnaces and the headings are being driven with a view to good drainage.

Tioga County Mines.

Antrim No. 5.—When last examined was in splendid condition both in regard to ventilation and drainage.

Mining machines have been introduced into this mine during the year to do part of the mining.

Antrim No. 1 has not been in operation during the year.

Arnot Mines.—There are two main openings to the mines. In what is known as No. 3 or the old mine the workings are confined to drawing back pillars. This part of the work was found in good condition. The greater number of the mines are working in the "New opening No. 5." I measured 29,800 cubic feet of air in circulation, which is well distributed throughout the workings. The drainage was reasonably good. The general condition of the mines is well up to the requirements of the law.

Bear Run Mines.—General condition when last examined was satisfactory. Mine foreman, Thomas S. Heron.

Morris Run Slope.—This mine is in excellent condition in every respect. An abundant supply of air is distributed throughout the working places of the mine and the safety of the persons employed is carefully looked after. Mine foreman, M. Driscoll and James O. Hadley.

Salt Lake.—This mine is in fair condition both as to ventilation and drainage. Mine foreman, C. Haddow.

Fall Brook Nos. 1 and 2.—In number 2 I found 62,010 cubic feet of air in circulation which was being well conducted to all parts of the mine. No. 1 mine does not come under the provisions of the law this year as they employ only five men.

Gurnee Mines.—These mines were idle during the entire year.

Clearfield County Mines.

Rochester Mine. This mine is operated by the Jefferson and Clearfield Coal and Iron Company. This is one of the oldest mines in the district. The mine opening is a double drift into the lower Freeport seam, which averages about 5½ feet in thickness. The mine has been operated about twenty years. They have one of the finest haulage rope plants in the State. The mine is divided into two sections, and the haulage has been extended into each, bringing the coal forward over a mile in trips of 40 to 60 cars. In addition to this, the cars from the Sandy Lick mine is hitched to the trip with a short rope and taken from the mine to the tipple. The empty cars are returned by the same method. I measured 82,400 cubic feet of air in circulation which was well distributed throughout the entire workings.

Brittanic Mine.—Idle the entire year.

Mount Carmel.—This mine has not come under the provisions of the law this year.

Karthaus Mine.—This mine has been exhausted during the year.

Cataract Mines.—At the time of my visit to these mines everything was found in good condition. The ventilation was good and the drainage was well arranged so that all parts of the workings were kept as dry as possible.

Winterburn Mine.—Idle during the entire year.

Williamsport Mines.—These mines were found in good condition. Ventilation here has been produced by furnace power, but they are arranging for the erection of a fan at No. 1 drift. They have concluded to abandon the opening of No. 6 or new drift, and reopen No. 2 drift. Drift No. 5 has been driven to its limit and the ribs and pillars are being mined out of it.

Helvetia Slope Mine.—The ventilation is good and the drainage fair. The workings on the left of main slope have run into a fault, and they are running from the right of the slope. Headings Nos. 3, 4 and 5 on right of slope are nearly worked out. They have made a bore hole near the mouth of No. 6 right heading for the purpose of pumping the water from the face of the main slope.

Berwind Shaft.—A small quantity of coal only has been mined here during the year. A second shaft has been completed and a large fan erected, producing from 90,000 to 100,000 cubic feet of air

per minute. The air current is divided into seven separate splits. Six overcasts have been constructed, four arched with brick and two with sheet iron. Numerous rock rolls in the south side of the workings have delayed development to a considerable extent. A very serious explosion of fire damp occurred at this mine on the morning of March 23rd whereby thirteen men lost their lives. An inquest was held on the following day, at which the following evidence was given:

The inquest was held before L. S. Hay, justice of the peace, acting as coroner, who empanelled the following named persons as jurors: John Ditchburn, Robert Logan, Frank Hetfield, H. McCullough, J. M. Ross and John Reed. The following verdict was rendered in the case:

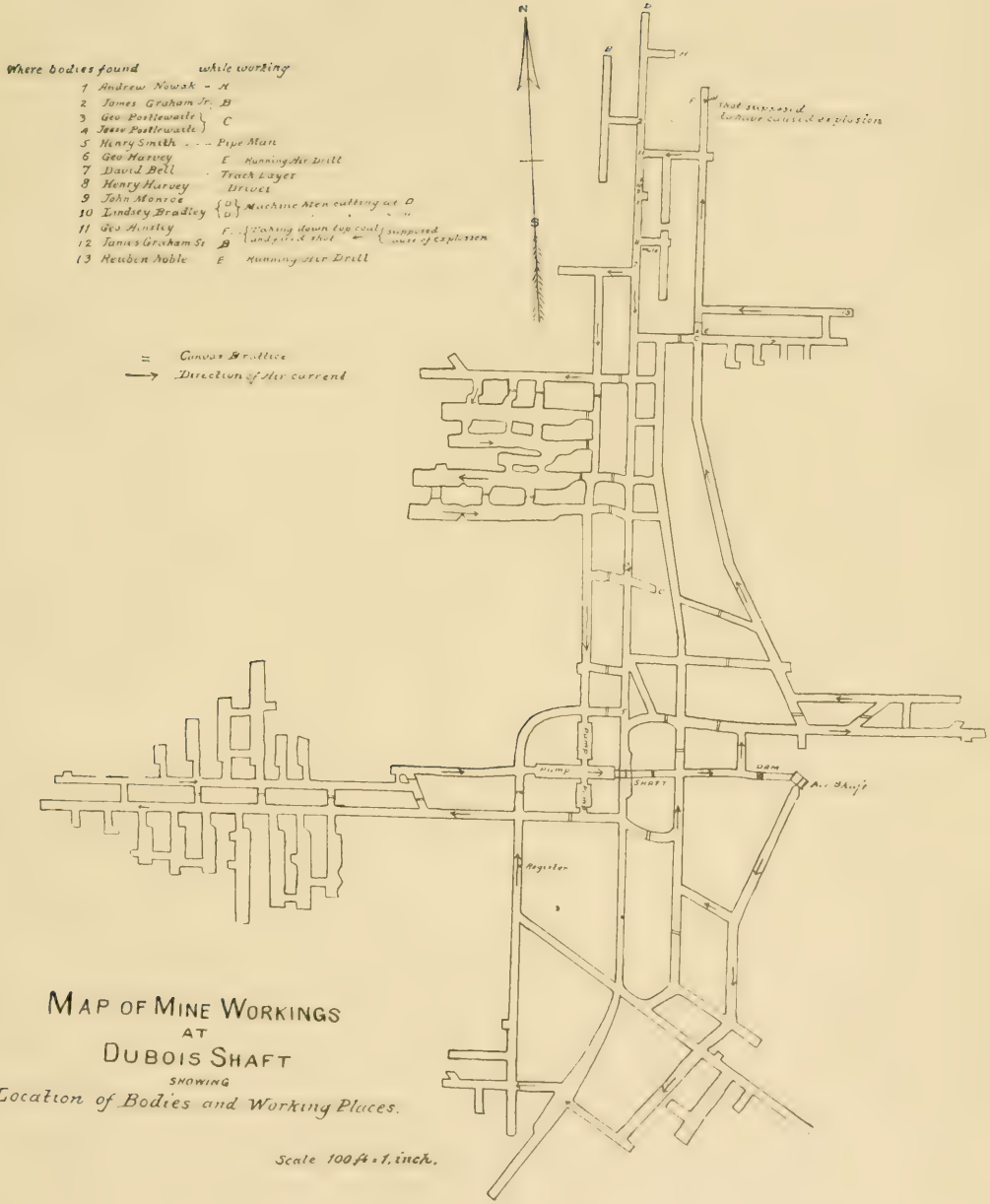
Commonwealth of Pennsylvania, }
County of Clearfield. } ss.

An inquisition at DuBois, in the county aforesaid, on the 24th, 25th and 27th of March, in the year of our Lord one thousand eight hundred and ninety-six, before L. S. Hay, a justice of the peace in and for the aforesaid county, acting coroner of the county aforesaid, upon view of the bodies of James Graham, Sr., James Graham Jr., John Monroe, George Postlewait, Jesse Postlewait, Henry Harvey, George Harvey, Harry Smith, Lindsey H. Bradley, Andrew Noak, David Bell, Reuben Noble and George Ainsley, then and there lying dead, upon the solemn oaths or affirmations respectively of John Ditchburn, F. W. Hetfield, J. M. Ross, John Reed, Robert Logan and Hugh McCullough, six good and lawful men of the county aforesaid, charged to inquire on the part of the Commonwealth of Pennsylvania, when, where and by what means said parties (above named) came to their deaths, who, upon their respective oaths or affirmations, that it appears from the view of the bodies and the evidence produced before them that the said parties came to their deaths on the twenty-third day of March, 1896, while following their usual avocations as employes in the Berwind-White shaft colliery, in Sandy township, Clearfield county and State of Pennsylvania, operated by the Berwind White Coal Mining Company, by an explosion of gas and coal dust, in the heading to the north dip of said Berwind shaft colliery.

In witness whereof, as well the said acting coroner, as the said jurors, have to this inquisition set their hands and seals on the 27th day of March, A. D. 1896, at Dubois, Clearfield county, Pa.

L. S. HAY, Acting Coroner.

J. Ditchburn, Robert Logan,
F. W. Hetfield, J. M. Ross,
Hugh McCullough, John Reed.


Where bodies found while working
1 Andrew Nowak - A
2 James Graham Jr. B
3 Geo Postlewaite } C
4 Jesse Postlewaite }
5 Henry Smith - - - Pipe Man
6 Geo Harvey E Running Air Drill
7 David Bell Track Layer
8 Henry Harvey Driver
9 John Monroe { B / D } Machine Men cutting at D
10 Lindsey Bradley { B / D } " " "
11 Geo Huntley F. { Taking down top coal / and fired shot } supposed cause of explosion
12 James Graham Sr B
13 Reuben Noble E Running Air Drill
= Canvas Brattice
Direction of Air current
N
S
Dump
Pump
SHAFT
DAM
Air Shaft
Register
MAP OF MINE WORKINGS
AT
DUBOIS SHAFT
SHOWING
Location of Bodies and Working Places.
Scale 100 ft = 1 inch.

Report of Mr. J. N. Patterson, Mine Inspector, and testimony taken as to the cause and result of explosion at Adrian Mine, Monday morning, March 23, 1896.

In company with Hugh Ross, mine foreman, and Mr. Frew, a miner, I proceeded from the mouth of the slope into the place where the mine was supposed to be on fire on Sunday night. I went through all the rooms in company with Mr. Ross and Mr. Frew. We went through all the rooms from 5th room to the face in the 5th left heading, and failed to find any gas in any of the rooms. I inqured of Mr. Ross if there had been any gas found in any of those rooms heretofore at any time, and he said "No." In rooms 23, 24 in 5th and 6th north, gas is found when they are cuttting clay veins. In the 5th left main and back heading, gas is found occasionally. After going over the territory, my judgment from the manner in which the dust was found through the cross cuts, cross headings, etc., I am of the opinion that the trouble originated around either 14th, 15th or 16th room in the main 5th heading. I was informed that there were no persons in the mine at this time, at least none were known to be in the mine, except the men who were timbering on the narrows, the pump men on the main slope, and the assistant fire boss. I am of the opinion, in view of the fact that there was no one in the mine at the time, that there must have been a shot fired previous to the miners going home on Saturday, which ignited a small blower of gas which remained burning until the place became full of smoke and coal dust, and when it become mixed with sufficient oxygen and had reached the explosive point, caused the explosion. There is no doubt in my mind but that coal dust suspended in the air contributed to the force and extent of the explosion.

Testimony of Witnesses.

Mr. Gregory, acting mine superintendent:

Mr. Gregory said he was notified about three o'clock in the morning by the night watchman that the mine was on fire. He went for Mr. Dunsmore, fire boss. They then together proceeded into the mine. They went until they were overcome by after-damp, when they concluded to retrace their steps, seing that some of the brattices were blown out, and the ventilation interfered with. When they came back they found Mr. E. W. Robinson, general superintendent. Then they made another attempt to find out the location of the trouble. They naturally supposed at first that the coal was on fire. He then went down in company with Dunsmore, Robinson, Gregory, Law-

rence and Jones. Gregory and Dunsmore told Mr. Robinson, Lawrence and Jones that it would not be safe for them to advance any further. Mr. Jones was told by Mr. Robinson not to go any further. Jones and Mr. Lawrence did however follow him, and when they reached the 5th left they were overcome by after-damp, and were found lying on the floor of the mine. They were all carried out, but before Lawrence and Jones reached fresh air, both were dead.

Mr. Dugal Dunsmore.

His testimony was the same as Mr. Gregory's.

Mr. Brunnett.

Testifies that he went into the mine as stated above, became unconscious and was carried out, and remembers nothing further on the subject.

Mr. Alex. Wise, assistant fire boss:

He says that there was supposed to be no one in the mine at the time except those stated above. His usual time for making the examination was 2 o'clock in the morning. At 10 o'clock Sunday evening he felt a slight concussion, but did not know from what part of the mine it came. When he went at the time stated, 2 o'clock, to make his usual examination of the working places previous to the miners entering, he found the brattices blown down and smoke coming out. At first he did not know where it was coming from or what the trouble was. Then he came out and notified Mr. Gregory, and the fire boss, Mr. Dunsmore, and Mine Foreman Ross. He said that no gas had been found at any time in any of these rooms with the exceptions of the rooms above noted where they were cutting clay veins. In the 5th main and back heading, gas was found occasionally. I asked him to give me his opinion as to the cause of the accident. He said he could not account for it in any way, except that the men working there had ignited a small blower of gas when they quit work Saturday evening. This was all the information he could give.

Mr. John Wallace, trackman:

His testimony was about the same as Mr. Gregory's and Mr. Dunsmore's, as he was with them the second time when they returned into the mine to look up the cause of the accident.

Mr. Ross, mine foreman:

He was notified by Mr. Nichol, watchman, that the mine was on fire. He dressed hastily and went to the scene of action. After being in the mine a little time, he was overcome and went home. He made several attempts but was unable to do anything.

Mr. Andrew Nichol, night watchman:

He said that at 2 o'clock Monday morning he was at the pit mouth and smelled fire. This being the outlet, the smell from the fire was very strong, and he came to the conclusion that some part of the mine was on fire. He notified Mr. Gregory and Mr. Ross, also Mr. L. W. Robinson and Mr. E. W. Robinson, the latter at Punxsutawney.

TABLE No. 1.—Showing Location, &c., of Collieries in the Fourth Bituminous Mine District.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Post office Address.
Arnot Nos. 3 and 5,	Bloss Coal Company,	Tioga,	E. E. Loomis,	Arnot.
Antrim Nos. 1 and 5,	Fall Brook Coal Company,	Tioga,	James Pollock,	Antrim.
Adrian Nos. 1 and 2,	Rochester and Pittsburg Coal & Iron Co.,	Jefferson,	Josiah Gregory,	De Laney.
Brittanic,	Geo. Rees & Co.,	Clearfield,	Geo. Rees,	Karthaus.
Berwind Shaft Colliery,	Berwind & White Coal Mining Company,	Clearfield,	C. E. Sharpless,	DuBois.
Bear Run,	Bloss Coal Company,	Tioga,	E. E. Loomis,	Arnot.
Peachtree Nos. 3 and 4,	Rochester and Pittsburg Coal & Iron Co.,	Jefferson,	Thomas Johns,	Beachtree.
Brock Nos. 1, 2 and 3,	Rochester and Pittsburg Coal & Iron Co.,	Jefferson,	George Mellinger,	Cartwright.
Cascade No. 1,	Kaul and Hall,	Elk,	Andrew Kaul,	St. Marys.
Cascade No. 2,	Kaul and Hall,	Elk,	Andrew Kaul,	St. Marys.
Cameron,	Cameron Coal Company,			
Coal Glen Nos. 1 and 2,	Jefferson Coal Company,	Jefferson,	Austin Blakeslee,	Coal Glen.
Cataract Nos. 1 and 2,	Berwind White Coal Mining Company,	Clearfield,	A. J. Cook,	Bellefonte.
Clermont,	Buffalo Coal Company,	McKean,	William Butts,	Clermont.
Clarion Nos. 1 to 7,	Northwestern Mining and Exchange Co.,	Jefferson,	Joseph Bailey,	Brockwayville.
Dagus Nos. 1 to 9,	Northwestern Mining and Exchange Co.,	Elk,	Joseph Bailey,	Brockwayville.
Eleanora No. 1,	Rochester and Pittsburg Coal & Iron Co.,	Jefferson,	Walter Arms,	Eleanora.
Eleanora No. 2,	Rochester and Pittsburg Coal & Iron Co.,	Jefferson,	Walter Arms,	Eleanora.
Fall Brook,	Fall Brook Coal Company,	Tioga,	Anton Hardt,	Wellsboro.
Gaines Mines,	Gaines Coal and Coke Company,	Tioga,	Patrick C. Smith,	Gurnee.
Glen Fisher,	Standard Coal and Coke Company,	Elk,	W. M. Harrison,	Williamsport.
Hazel Dell,	Kaul and Hall,	Elk,	Andrew Kaul,	St. Marys.
Helvetia Nos. 1 and 2,	Rochester and Pittsburg Coal & Iron Co.,	Clearfield,	John W. Ryan,	Helvetia.
Instanter,	Buffalo Coal Company,	McKean,	John F. Keating,	Clermont.
Karthaus,	B. W. C. M. Co., Spear & Cowan, contractors.	Clearfield,	A. G. Spears,	Karthaus.
Kettle Creek No. 1	Kettle Creek Coal Company,	Clinton,	James Ward,	Bitumen.
Kettle Creek No. 2,	Kettle Creek Coal Company,	Clinton,	James Ward,	Bitumen.
Kurtz Mine,	Kurtz and Rinn,	Jefferson,	S. A. Rinn,	Punxsutawney.
London Mine,				
Long Valley,	Long Valley Coal Company,	Bradford,	E. O. MacFarlane,	Towanda.
Lyman	Buffalo Coal Company,	McKean,	John F. Keating,	Clermont.
Morris Run Nos. 1 and 2,	Morris Run Coal Mining Company,	Tioga,	W. S. Nearing,	Morris Run.
Mt. Carmel,	Mt. Carmel Coal Company,	Clearfield,	S. E. Emerick,	Karthaus.
Noble Mine,	Shawmut Coal Company,	Elk,	George Mellinger,	Cartwright.
Paul Mine,	Kaul and Hall,	Elk,	Andrew Kaul,	St. Marys.
Rochester,	Jefferson and Clearfield Coal and Iron Co.,	Clearfield,	John Reed,	DuBois.
Red Run,	Red Run Coal Company,	Lycoming,	Robt. Brownlee,	Ralston.
Sandy Lick,	Jefferson and Clearfield Coal and Iron Co.,	Clearfield,	John Reed,	DuBois.
Shawmut Nos. 1, 2 and 3,	Shawmut Coal Company,	Elk,	George Mellinger,	Cartwright.
St. Marys Nos. 1, 2, 3 & 5,	St. Marys Coal Company,	Elk,	Joseph Eddy,	St. Marys.

Township.	P. O. Mail.	Railroad Connection.	Elk.	Joseph Eddy,	St. Mary's.
Williamsport Mines	Clearfield	Clearfield Coal Company	Clearfield,	John C. Hurst,	Tyler.
Walston No. 1	Rochester	Rochester and Pittsburg Coal & Iron Co.,	Jefferson,	Edwin W. Robinson,	Punxsutawney.
Walston No. 2	Rochester	Rochester and Pittsburg Coal & Iron Co.,	Jefferson,	Samuel A. Rhue,	Punxsutawney.
Walston No. 3	Rochester	Rochester and Pittsburg Coal & Iron Co.,	Jefferson,	Samuel A. Rhue,	Punxsutawney.
Winterburn	Winterburn	Winterburn Colliery	Clearfield,	C. M. Blanchard,	Winterburn.

TABLE No. 2.—Gives the total number of tons of coal mined and shipped and tons of coke produced in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder used, &c., in the Fourth Bituminous Mining District, for the year ending December 31, 1896.

Names of Collieries.	Location	Total production in tons of coal.	Total production in tons of coke.	Total shipments in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Number coke ovens.
Arnot Nos. 3 and 5,	Arnot, Tioga county,	293,300	1,032	.....	226	674	.....	1	2,500	3	63	2	200
Antrim Nos. 1 and 5,	Antrim, Tioga county,	102,689	.....	53,798	154	284	.....	2	.....	4	22	2	.....
Adrian Nos. 1 and 2,	DeLancey, Jefferson county,	725,533	158,867	446,235	276	794	2	.....	5,200	16	91	2	450
Britannic,	Karthaus, Clearfield county,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Berwind Shaft Colliery,	DuBois, Clearfield county,	29,324	.....	12,524	300	60	13	.....	200	2	8	.....	.....
Bear Run,*	Landrus, Tioga county,	139,241	.....	138,120	216	327	.....	2	1,100	3	.....	4	.....
Beachtree Nos. 3 and 4,	Beachtree, Jefferson county,	167,101	.....	167,101	165	315	.....	.....	1,050	4	26	.....	.....
Brock Nos. 1, 2 and 3,*	Brockwayville, Jefferson county,	38,784	.....	.....	220	83	.....	.....	350	1	1	2	.....
Cascade No. 1,	St. Marys, Elk county,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cascade No. 2,	St. Marys, Elk county,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cameron,	Cameron, Cameron county,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Coal Glen Nos. 1 and 2,	Coal Glen, Jefferson county,	210,500	.....	209,000	222	265	1	.....	1,800	3	28	1	.....
Cataract Nos. 1 and 2,	Cataract, Clearfield county,	31,594	.....	31,594	104	63	.....	.....	375	.....	19	.....	.....
Clermont,	Clermont, McKean county,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clarion Nos. 1 to 7,	Crenshaw, Jefferson county,	335,179	.....	333,578	256	440	.....	.....	1,723	3	47	2	.....
Dagus Nos. 1 to 9,	Dagus Mines, Elk county,	386,299	.....	384,963	274	599	.....	.....	3,000	5	48	2	.....
Eleanora No. 1,	Eleanora, Jefferson county,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eleanora No. 2,	Eleanora, Jefferson county,	745,335	.....	745,335	252	840	5	5	3,075	8	75	.....	169
Fall Brook,	Fall Brook, Tioga county,	68,759	.....	26,655	239	171	.....	1	.....	1	22	1	.....
Gaines Mines,	Gurnee, Tioga county,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glen Fisher,	Glen Fisher, Elk county,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hazel Dell,	St. Marys, Elk county,	14,311	.....	14,311	132	55	.....	.....	130	.....	5	.....	.....
Helvetia Nos. 1 and 2,	Helvetia, Clearfield county,	143,716	9,759	133,985	209	277	.....	.....	2,000	8	39	.....	40
Instanter,	Clermont, McKean county,	34,263	.....	34,263	291	56	.....	.....	350	.....	5	1	.....
Karthaus,	Karthaus, Clearfield county,	31,803	.....	31,803	209	49	.....	.....	125	.....	8	.....	.....
Kettle Creek No. 1,	Bitumen, Clinton county,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Kettle Creek No. 2	Brumm, Clinton county	134,598			23	24			1,278		5			
Kurtz Mine	Walston, Jefferson county	80,000		80,000	180	8	1	2	709		15			
London Mine	London, Jefferson county	285,914		285,914	142	31	1			2	21	1		
Long Valley	Long Valley, Bradford county	52,467		52,467	115	17			1,671	2	17			
Lyman	Clermont, McKean county	22,726		22,726	290	38			150		6			
Morris Run Nos. 1 and 2	Morris Run, Tioga county	196,669				552		7						
Mt. Carmel	Karthaus, Clearfield county	1,202		1,202		19			20		2			
Noble	Elbon, Elk county	27,488			278	30			245		2			
Paine	Centerville, Elk county	8,260		8,260	118	31					1			
Rochester Mine	DuBois, Clearfield county	315,262		315,262	159	456				8	50			
Red Run	Red Run, Lycoming county	82,730		78,730	264	166			1,504	2	9	2		
Sandy Lick	DuBois, Clearfield county													
Shawmut Nos. 1, 2 and 3	Cartwright, Elk county	159,281			277	237			1,402		14			
St. Marys Nos. 1, 2, 3, 4 & 5	St. Mary's, Elk county	46,526		46,526	231	78			129		6	1		
Tannerdale	Tannerdale, Elk county													
Williamsport Mines	Tyler, Clearfield county	119,173	281,791	62,190	985	267			776	3	15	2	100	
Walston Nos. 1, 2 and 3	Walston, Jefferson county	569,234	211,248	192,448	289	691	1		600	13	90		700	
Winterburn	Winterburn, Clearfield county													
Mead Run	Cartwright, Elk county	166,504			272	232	1		1,706		12	1		
Total		7,762,765	449,980	3,908,127	6,998	8,858	27	15	32,767	146	788	26	1,650	

TABLE No. 3.—Showing the number of each class of employes at each colliery in the Fourth Bituminous Mine District, during the year 1896.

Name of Colliery.	Location—County.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							
		Inside foreman or mine boss.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Doorboys and helpers.	Total Inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All company men.	Superintendent, bookkeepers and clerks.	Total outside.	Grand totals inside and outside.
Arnot Nos. 3 and 5,	Tioga,	3	434	.....	20	56	20	533	1	7	6	73	28	6	121	654
Antrim Nos. 1 and 5,	Tioga,	2	175	14	6	22	7	226	1	3	1	4	4	3	58	284
Adrian Nos. 1 and 2,	Jefferson,	2	440	18	28	54	18	560	2	12	18	2	196	3	234	794
Brittanic,	Clearfield,															
Berwind Shaft Colliery,	Clearfield,	2	30	.....	10	6	1	49	.....	3	.....	.....	6	2	11	60
Bear Run,	Tioga,	2	267	6	10	3	.....	288	1	7	6	.....	25	.....	39	327
Beechtree Nos. 3 and 4,	Jefferson,	2	271	.....	11	3	4	297	.....	3	4	1	8	2	18	315
Brock Nos. 1, 2 and 3,	Jefferson,	1	65	.....	2	1	.....	69	1	2	1	.....	9	1	14	83
Cascade No. 1,	Elk,															
Cascade No. 2,	Elk,															
Cameron,	Cameron,															
Coal Glen Nos. 1 and 2,	Jefferson,	1	225	.....	6	13	.....	245	1	2	2	.....	13	2	20	265
Cataract Nos. 1 and 2,	Clearfield,	1	45	2	.....	3	4	55	.....	1	.....	2	4	1	8	63
Clermont,	McKean,															
Clarion Nos. 1 to 7,	Jefferson,	3	317	.....	9	24	.....	353	2	5	5	1	69	5	87	440
Dagus Mines Nos. 1 to 3,	Elk,	3	479	.....	13	30	.....	525	1	10	7	3	41	6	74	599
Eleanora No. 1,	Jefferson,															
Eleanora No. 2,	Jefferson,	2	510	26	37	61	10	646	2	10	12	3	164	3	194	840
Fall Brook,	Tioga,	2	98	20	3	20	6	149	1	3	1	14	.....	3	22	171
Gaines Mines,	Tioga,															
Glen Fisher,	Elk,															
Hazel Dell,	Elk,	1	45	.....	1	5	.....	52	.....	1	.....	.....	1	1	3	55
Helvetia Nos. 1 and 2,	Clearfield,	3	218	.....	8	19	4	250	.....	3	9	1	12	2	27	277
Instanter,	McKean,	1	42	.....	1	5	.....	49	.....	1	2	.....	4	.....	7	56
Karthaus,	Clearfield,	1	37	2	4	.....	.....	43	.....	1	.....	1	3	1	6	49

Kettle Creek No. 1,	Clinton,														
Kettle Creek No. 2,	Clinton,	1	170	.....	5	16	4	196	.....	4	.....	6	3	2	15	211
Kurtz Mine,	Jefferson,	1	80	2	2	7	1	93	1	2	1	1	.....	1	6	99
London,	Jefferson,	1	300	.....	6	20	5	332	.....	3	6	.....	10	.....	19	351
Long Valley,	Bradford,	1	70	.....	13	9	3	96	.....	3	2	4	8	2	19	115
Lyman,	McKean,	1	30	.....	1	3	.....	35	.....	1	.....	.....	2	.....	3	38
Morris Run Nos. 1 and 2,	Tioga,	3	393	.....	20	46	25	487	.....	6	3	36	12	8	65	552
Mt. Carmel,	Clearfield,	.....	8	.....	1	.....	.....	9	.....	.....	.....	.....	.....	1	1	10
Noble,	Elk,	1	41	4	2	1	.....	495	.....	2	1	.....	2	1	6	55
Paine,	Elk,	1	25	.....	1	1	.....	28	.....	1	.....	.....	1	1	3	31
Rochester Mine,	Clearfield,	1	360	.....	10	37	9	417	1	3	7	.....	24	1	36	453
Red Run,	Lycoming,	1	95	.....	20	2	.....	118	1	5	2	2	36	2	48	166
Sandy Lick,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shawmut Nos. 1, 2 and 3,	Elk,	1	201	.....	6	14	1	223	1	2	.....	.....	10	1	14	237
St. Marys Nos. 1, 2, 3, 4 and 5,	Elk,	1	60	.....	4	4	.....	69	1	1	2	.....	5	.....	9	78
Tannerdale,	Elk,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Williamsport Mines,	Clearfield,	1	148	3	4	8	2	166	1	2	4	.....	32	2	41	207
Walston Nos. 1, 2 and 3,	Jefferson,	1	378	28	36	38	11	492	2	8	12	2	172	3	199	691
Winterburn,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mead Run,	Elk,	1	202	.....	5	12	1	221	1	2	1	.....	6	1	11	232
Total,		47	6,257	126	305	549	136	7,420	22	128	128	102	911	167	1,438	8,858

TABLE No. 4.—List of fatal accidents that occurred in and about the Mines of the Fourth Bituminous Mine District, for the year ending December, 31, 1896.

Date of accident.	Name of Person.	Occupation.	Age.	Married.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 11,	Mike Brisbone,	Miner,	34	S.	....	Eleanora,	Jefferson,	Instantly killed by a fall of coal.
Mch. 7,	John Percoskie,	Miner,	19			Eleanora,	Jefferson,	Instantly killed by a fall of coal.
23,	Isaac Jones,	Machinist,	43	M.	6	Adrian,	Jefferson,	Suffocated by afterdamp. (See report.)
23,	Joseph Lawrence,	Roadman,	54		4	Adrian,	Jefferson,	Suffocated by afterdamp. (See report.)
23,	George Ainsley,	Miner,	34	M.	3	Berwind shaft,	Clearfield,	
23,	Andrew Nowak,	Miner,	38	M.	2	Berwind shaft,	Clearfield,	
23,	David Bell,	Trackman,	44	M.	....	Berwind shaft,	Clearfield,	
23,	Jesse Postlewait,	Mch. runner,	26	M.	....	Berwind shaft,	Clearfield,	
23,	George Postlewait,	Helper,	37	M.	1	Berwind shaft,	Clearfield,	
23,	Henry Harvey,	Laborer,	40	M.	5	Berwind shaft,	Clearfield,	From explosion of gas and coal dust. (See report of inquest.)
23,	George Harvey,	Laborer,	46	M.	6	Berwind shaft,	Clearfield,	
23,	Harry Smith,	Trackman,	33	M.	6	Berwind shaft,	Clearfield,	
23,	Reuben Noble,	Laborer,	36	M.	5	Berwind shaft,	Clearfield,	
23,	John Munroe,	Mch. runner,	30	M.	....	Berwind shaft,	Clearfield,	
23,	Lindsey H. Bradley,	Mch. runner,	32	M.	1	Berwind shaft,	Clearfield,	
23,	James Graham, Sr.,	Miner,	46	M.	8	Berwind shaft,	Clearfield,	
23,	James Graham, Jr.,	Miner,	20	S.	....	Berwind shaft,	Clearfield,	
April 14,	Michael Alusiak,	Miner,	36	M.	2	Kettle Creek,	Clinton,	These two brothers were instantly killed by a fall of coal while undermining close to a fault. They did not have sprags set to secure themselves.
14,	Andrew Alusiak,	Miner,	32	M.	....	Kettle Creek,	Clinton,	
July 6,	James Campbell,	Miner,	26	S.	....	Kurtz & Rinn,	Jefferson,	Instantly killed by a fall of roof.
Aug. 20,	John Waik,	Miner,	54	M.	4	Eleanora,	Jefferson,	Instantly killed by a fall of coal.
25,	Clyde Hockenberg,	Driver,	25	S.	....	Eleanora,	Jefferson,	Fell in front of loaded wagon while coming down grade with a loaded trip of cars, and was found dead under the wagon.
Sept. 26,	Joseph Raymond,	Miner,	35	M.	....	Walston,	Jefferson,	Instantly killed by a fall of coal.
Oct. 9,	John Waitt,	Miner,	25	M.	2	London,	Jefferson,	Instantly killed by a fall of coal.
30,	John Ross,	Miner,	39	M.	6	Coal Glen,	Jefferson,	Instantly killed by a fall of roof while taking out gangway pillars.
30,	John Gustafson,	Miner,	36	S.	....	Mead Run,	Elk,	Instantly killed by a fall of coal.
30,	Labore Laporene,	Miner,	32	M.	3	Eleanora,	Jefferson,	Instantly killed by fall of "horseback."

TABLE No. 5.—List of non-fatal accidents that occurred in and about the mines of the Fourth Bituminous Mine District, for the year ending December 31, 1896.

Date of accident.		Name of Person.	Occupation.	Age.	Married.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan.	13.	Pasquale Puy,	Miner,	40	M.	Kurtz & Rinn,	Jefferson,	Leg broken by a fall of coal.
	13.	Mike Verbose,	Miner,	38	S.	Eleanora,	Jefferson,	Severely injured by a fall of slate.
	14.	Thomas Rundolph,	Miner,	38	M.	Eleanora,	Jefferson,	Two ribs broken by a fall of coal.
Mch.	9.	Andrew Bower,	Trackman,	20	S.	Bear Run,	Tioga,	Foot injured by a fall of slate.
	20.	James Wyse,	Miner,	40	M.	Bear Run,	Tioga,	Head and arms bruised by a fall of slate.
June	15.	Evans Esalas,		19	....	Jones Mine,	Tioga,	They were riding on an empty car down the slope, contrary to the rules, with a can of powder on board the car. The car jumped the track, the powder became ignited from their lamps, and all of them were burned more or less severely.
	15.	Albert Husted,		13	....	Jones Mine,	Tioga,	
	15.	William Husted,		16	....	Jones Mine,	Tioga,	
	15.	Walter Kattewski,		16	....	Jones Mine,	Tioga,	
	15.	Peter Lawson,		18	....	Jones Mine,	Tioga,	
	15.	Felix Kattewski,		13	....	Jones Mine,	Tioga,	
Sept.	7.	Joseph Crooks,	Miner,	54	M.	Antrim,	Tioga,	Leg broken by a fall of slate.
	10.	William Pryde,	Driver,	24	M.	Eleanora,	Jefferson,	Leg injured by being caught between two loaded cars.
Oct.	23.	Daniel Fox,	Miner,	16	....	Antrim,	Tioga,	Foot hurt by a fall of slate.
Nov.	17.	George Gomolok,	Miner,	34	M.	Eleanora,	Jefferson,	Leg and arm broken by fall of coal.
	17.	Mike Lowling,	Miner,	34	M.	Eleanora,	Jefferson,	Two ribs broken by a fall of coal.
	30.	George Minchin,	Miner,	34	M.	Morris Run No. 1,	Tioga,	Back, leg and arms injured by a fall of coal.
Dec.	21.	Chas. Cowan	Miner,	54	M.	Arnot,	Tioga,	Collar bone broken by a fall of coal.
	22.	William Clarkson,	Miner,	24	S.	Falls Brook,	Tioga,	Foot bruised by a fall of coal.

FIFTH BITUMINOUS DISTRICT.

(FAYETTE AND SOMERSET COUNTIES.)

Uniontown, Pa., February 15, 1896.

Hon. James W. Latta, Secretary of Internal Affairs:

Sir: I herewith submit my annual report as Inspector of Mines for the Fifth Bituminous District, for the year ending December 31, 1896, as required by Section 11 of Article X of the act of Assembly approved May 15, 1893.

The coal and coke trade has been very much depressed during the year, consequently the production has been greatly reduced as compared with last year. In 1895 the total production was 6,433,80- tons of coal and 3,756,487 tons of coke, while this year the production is 4,979,410 and 2,629,541 tons of coal and coke, respectively, showing a falling off of 1,454,392 tons of coal and 1,126,946 tons of coke as against 1895. As a consequence of the depression in the coal and coke business, the number of persons employed is also fewer. In 1895 the number of persons employed was 8,389, this year the number is 7,524. The number of fatal accidents has increased five over last year, but the non-fatal accidents have decreased twenty-two. Last year there were 13 fatal accidents. This year 18. The non-fatal accidents last year were 70; this year, 48. One life was lost for every 276,634 tons of coal produced, and one non fatal accident occurred for every 103,655 tons mined. While for every 418 persons employed one person was killed, and for 157 persons employed there was one injured. At least seven of the fatal accidents might have been prevented if the victims had exercised ordinary care. The others were unavoidable. The same may be said with reference to the non-fatal accidents, quite a large proportion being due to carelessness on the part of the injured persons. It may be safely asserted that fifty per cent. of the accidents could be averted if the persons employed in the mines would exercise even ordinary care to protect themselves and others.

Advantage has been taken of the depressed condition of trade by some of the operators to develop the workings of their mines. The headings have been pushed forward and new work opened out very rapidly. In a number of instances all the coal required to charge the ovens has been mined from the headings. The object of this, being

to recover a greater percentage of the coal seam than has been obtained by past methods of working. The plan now sought to be adopted is to drive the headings to the boundary lines, or to the end of sections, and work the coal on what is known as the retreating system. By this method it is proposed not only to recover more of the total acreage of the coal property, but also to produce the coal more economically. The operators who are adopting these methods and pushing the developments most rapidly are the H. C. Frick, and McClure Coke Companies. Not only will the cost of production be lessened and a greater percentage of the coal seam be recovered by this method of working, but in addition a more perfect and permanent system of ventilation can be adopted, and thus the health and safety of the miners and other persons employed in these mines will be better protected.

I am glad to report that the majority of the mines in the district have been improved in their condition in a great many respects. The ventilation and drainage have been especially attended to with very gratifying results.

There is a general disposition on the part of the operators (with one or two exceptions), not only to comply with the requirements of the law, but to anticipate and even exceed its demands.

One mine was worked out and abandoned, and one new mine opened up during the year. Three mines were idle during the entire year.

The usual statistical tables accompany this report.

All of which is respectfully submitted.

CHAS. CONNOR,
Mine Inspector Fifth Bituminous District.

Summary of Statistics, 1896.

Number of mines in district,	66
Number of mines operated during the year,	63
Number of mines idle during the year,	3
Number of mines opened during the year,	1
Number of mines abandoned during the year,	1
Number of persons employed inside the mines,	4,809
Number of persons employed outside the mines,	2,715
Total number of persons employed,	7,524
Number of tons (2,000 lbs.) of coal mined during the year,	4,979,410
Number of tons (2,000 lbs.) of coal shipped during the year,	1,075,620

Number of tons (2,000 lbs.) of coke produced during the year,	2,629,541
Number of tons of coal mined for each fatal accident,	276,634
Number of tons of coal mined for each non-fatal accident,	103,655
Number of persons employed per each fatal accident,	418
Number of persons employed per each non-fatal accident,	157
Number of horses and mules in use,	737
Number of coke ovens built during the year,	220
Number of coke ovens in district,	8,318
Number of mine locomotives in use,	11
Number of kegs of powder reported as used in mines,	8,516
Number of steam boilers in use,	203
Number of fatal accidents during the year,	18
Number of non-fatal accidents during the year,	48
Number of widows by fatalities,	11
Number of orphans by fatalities,	18
Number of days worked by all the mines during the year,	13,572
Average number of days worked by all the mines during the year,	215½

Classification of Accidents.

	Fatal.	Non-Fatal.
By falls of roof or slate,	4	10
By falls of coal,	5	11
By mine wagons,	6	20
By larries on coke ovens,		1
By being burned by gas,		3
Miscellaneous,	3	3
Total,	18	48

Description of Mines.

Atlas.—Operated by the Cambria Iron Company and situated near Dunbar. This mine is connected with the Mahoning mine and they are practically one mine under the supervision of one mine foreman. The ventilation, drainage and general condition is good. New hoisting engines were erected during the year. A large brick engine house was also built. Mining boss, Frank Deary.

Anchor.—This mine is now exhausted, having been worked completely out and abandoned. It worked only thirty-three days this year. The whole plant is now dismantled. Mining boss and superintendent, William Duncan.

Bessie.—This mine is in good condition both as to ventilation and drainage. A new opening has been made which is used as a traveling way and it has improved the ventilating current, and given a greater efficiency to the ventilating apparatus. The mine is well looked after. Mining boss, James S. Connor.

Buffalo.—This mine has been idle nearly all the year. During the month of December the water was being pumped out with a view of resuming operations again. No coal was mined during the year.

Berlin.—This mine did not employ more than nine men during the year, and consequently did not come under the provisions of the law. The present operations are nearly exhausted and another opening will be made on the property where it will be self-draining and where the property can be better developed and more advantageously worked.

Casselman.—This mine is now in better condition than for some years past. The dip workings have been developed and new facilities for pumping the water out of them have been utilized. A new hoisting engine has been put in the mine to haul the coal from the dip workings, which gives excellent results. The engines and boiler house were burned during the year and they have been replaced by more substantial ones. The ventilation is not as efficient as it should be. The only ventilating power is the heat radiated from the column of steam pipes which conveys steam into the mine for the pumps and hoisting engines, but which is not sufficient to give a volume of air through the mine. A fan placed over the intake air shaft would help very materially in increasing the quantity of air in circulation and thereby improve the sanitary condition of the mine. Mine boss, John Connor.

Cumberland.—This mine is in a very good condition. New workings have been developed on better methods, and nearly all the old workings have been worked out and abandoned. The ventilation is good throughout the mine, except in a few places at the extreme end of the property where ribs are being drawn. This work will soon be finished and the mine officials will then have an opportunity to have a good mine on modern methods. The mine being located at a very considerable elevation above the railroad tracks, an incline plane was used to drop the mine cars down to the chutes in order to load the coal into the railroad cars. This incline plane has been abandoned, and a long chute from the mine mouth now delivers the coal into the railroad cars. A series of gates have been erected in the chute which can be operated from the top in such a manner that the speed and quantity of coal delivered through the chutes can be regulated as desired by the persons in charge. This improvment has decreased the cost of handling the coal outside, and a greater quantity can be handled now than formerly. Mine boss and superintendent, Fred Rowe.

Clarissa.—This mine is in its usual excellent condition. It is well looked after and kept in good condition in all respects. Mine boss, J. C. Moore.

Chester.—This mine is in good condition both as regards ventilation and drainage, and will not be permitted to suffer through lack of attention on the part of the mine officials. Mining boss, Edward Mooney.

Crossland.—I have to again commend the management of this mine for the manner in which they obey the law, and the condition in which they keep the mine. Everything is in excellent condition and it is a pleasure to visit such a mine. Everything about the place denotes careful attention and faithful work. The small details are looked after as well as the more important requirements. Mining boss, David Walters.

Cheat Haven.—This mine has worked very irregularly during the year, sometimes employing fewer than ten persons and consequently not coming under the provisions of the law. At other times they employed about forty persons. The condition of the mine is good, both as to ventilation and drainage. Mining boss, Thomas Louden.

Edna.—Employed two men only, who were employed in digging coal for domestic purposes, and the mine is therefore not under the requirements of the law.

Elm Grove.—This mine is in good condition. A new slope has been opened whereby the coal is conveyed to a large new bin which has sufficient capacity for coal to charge the ovens for one day. Gas has been detected in the advance workings, and in one instance it was allowed to accumulate in such quantity that two men were burned. These men had passed the danger signal without the knowledge of the mine foreman. The new opening has increased the volume of air in circulation in the mine, and the distance the air has to travel to the outlet has been made very much shorter. Some improvement in the character of the stoppings will improve the ventilating current still more. The mine is in good hands, and will no doubt be made equal in safety and equipment to any in the district. Mining boss, J. F. Anderson.

Elenora.—This mine is owned and operated by the J. D. Boyd Coal Company, and is situated on the Redstone branch of the P. V. & C. Railroad, near Smock station. The general condition of the mine is good, the ventilation being well conducted around the working places and road-ways. It is self-draining, and the road-ways are in good condition. Mining boss, John Sincock.

Fairchance.—This mine has been very largely developed during the year. The mining of coal has been confined almost exclusively

to heading workings and thus a new mine has practically been opened up. The water from the old workings will be prevented from entering into the new, by a system of dams, and it will be made self-draining thus saving considerable expense in the pumping of water. The ventilation is good and well distributed around the workings. Mining boss, I. W. Reckard.

Ferguson.—This mine has not worked more than half time during the year owing to the depressed condition of the coke trade. The ventilation, drainage, and general conditions, are good. Mining boss, Michael McQuade.

Fairview.—This mine is in very much better condition than formerly. The ventilation is very considerably improved, which is due to the erection of stoppings and doors to conduct the air current around the working places. More attention is paid to the requirements of the law than formerly, with the result that better conditions exist throughout the entire mine. The whole of the workings of the mine are now confined to removing the pillars, the solid coal having all been worked over. Mining boss, John Rees.

Grindstone.—This mine has worked only seventy-two days during the year. The ventilation has been improved to such an extent that permission was given to work the mine with open lights. Owing to the existence of explosive gas being found in the gob workings where ribs had been drawn, the use of open lights had been prohibited. Under the present management, the air currents were so directed upon these gobs that the gas was removed and carried by separate return air ways into the upcast shaft thus making the workings safe from standing gas. At the request of the operators that I should visit the mine with a view to ascertaining if it was safe to be again worked with open lights, I called into consultation two other Inspectors, Messrs. Louttit and Callaghan, who with myself made a visit to the mine, and after a careful examination into all the circumstances and conditions in connection therewith, decided that it would be safe to allow the use of open lights.

The mine officials deserve great credit for the manner in which they have planned the arrangements whereby the safety of the mine has been assured under ordinary conditions. They have spared neither labor nor expenses to secure safety, and very gratifying results have resulted. There is an abundance of air in circulation throughout the mine, and the air currents are so arranged that each split is carried into the main return air way and to the upcast shaft, and persons are not allowed to travel in the return airway, thus every precaution is taken to prevent accidents. Mining boss, William Gillic.

Great Bluff.—This mine is in fair condition as to ventilation. The

drainage is also good, as all the water is drained into adjoining mines which are below its level. The coal now mined is all being got from pillars, and is fast becoming exhausted. A few more years will see the mine entirely worked out and abandoned. Mining boss, William Holsing.

Grassy Run.—This mine was idle at each visit I made to it during the year. Its condition is fairly good so far as ventilation and drainage are concerned. The natural advantages are such that it is easy to keep the mine in good condition. Mining boss and superintendent, John Meagher.

Hocking.—This mine is in good condition, as to ventilation, drainage, etc. On one of my visits I found part of the mine very smoky, and the air current sluggish, but by the use of a door and a few brattices this has now been improved and there is no room for complaint on this score. Mining boss, R. A. Winter.

Hopkins.—This is a new opening, which was made about the beginning of the year, by the Hopkins Brothers. It is situated on the Washington Run branch of the P. McK. & Y. Railroad. It was formerly a country custom coal bank and supplied coal for domestic purposes to the farmers and others in the neighborhood. The Hopkins Brothers erected a tipple, built an engine and boiler house, and put engines in to haul the coal and they developed the coal mine and operated it until two months ago when the Washington Coal and Coke Company acquired possession, and this company has operated the mine since. It is in good condition in all respects and is well looked after. Mining boss, Allen Champ.

Hill Farm.—The condition of this mine is somewhat improved over the condition as reported last year, but there is still very great room for improvement. The excessive heat upon the slope has not been reduced to any great extent, neither has the escape of the noxious gases into the manway been kept in check for any length of time, but they are still allowed to vitiate the air to such an extent that a lamp can scarcely burn in the return air near the outer end of the manway. With a perverseness born either of ignorance or stupidity, or both, the management continue tinkering and patching on the old lines and methods that have been time and again demonstrated to be utterly useless and ineffective. A bore hole has been drilled for over a year, but no effort has been made to utilize it, either to pump the water through it, or to allow the exhaust steam from the pumps to escape and thereby reduce the temperature of the slope, and consequently improve its condition. A great deal of work has been done on the slope in the way of timbering, and it is somewhat safer than it was last year, but it cannot be said to be perfectly safe yet by any means. The high temperature of the air, saturated with moisture from the exhaust steam has a very deleterious effect upon

the timbers, causing their rapid decay, consequently their renewal is frequently required in order that safety may be assured. This is both a dangerous and expensive operation.

The drainage is not improved any, as the hauling roads are covered by water for long distances, through which men and mules have to travel.

The ventilation is good. There is an abundant supply coming in from Ferguson mine, which travels around the working places before returning to the heated slope. Mining boss, Matthew Heron.

Hurst.—This mine is in good condition generally. No. 6 butt heading has been driven through into an old mine, thereby giving a second outlet other than the furnace shaft. This opening will be utilized for a traveling way as well as an additional air way. The ventilation and drainage is good and the mine is well looked after. Mining boss, Jacob Hauser.

Juniata.—The condition of this mine is such that words of commendation only can be written about it. The officials are not only willing but anxious to comply with all the requirements of law. There is no mine in the district that is better looked after or is in better condition as to healthfulness and safety. Mining boss, John D. Hayden.

Kyle.—The operations in this mine have been confined to the development of new work, as none but headings are being worked. It is the intention to install a rope haulage plant in the near future, also to build new coal bins and charge the coke ovens from larries instead of from the mine wagons as at present. A temporary rope haulage has been put in operation from pit mouth to C flat, a distance of about 1,900 feet.

The mine is in good condition as to ventilation and drainage, and is well looked after.

The mine has not been operated steadily during the year. During the month of October, the Fairchance mine suspended operations and the men were transferred to the Kyle mine. Communication will be made with Fairchance, which will be abandoned and the coal be worked from the Kyle mine. It is also intended to connect the Fairchance coke ovens with the Kyle coal bins and make one plant of what was formerly two. Dams will be built across the main slope and manway at Fairchance mine, thus completely shutting off all the surface water from the old workings. Mining boss, I. W. Reckard.

Keystone.—Was idle all year.

Leith.—The headings have been pushed ahead and new workings developed with a view to work the rooms and pillars on the retreating system. Advantage has been taken of the dullness in the coke trade and the decreased number of ovens in operation to make these

developments. Indeed this policy has been adopted at all the H. C. Frick Coke Company's works, with the result that the mines are now in such a condition that better results can be obtained in recovering a greater percentage of the coal seam than ever before, also a more permanent system of distribution of the air currents throughout the mines, and consequently more healthful and safe conditions exist.

The rope haulage has been extended on C flat for about 1,200 feet.

The ventilation and drainage are good and will in the near future be still further improved in the shortening of the distance that the air current travels, by the connecting of two portions of the mine by headings which are now being driven for air ways. Mine boss, W. J. Callaghan.

Leisenring No. 1.—This mine is in its usual excellent condition. The rope haulage system has been extended by a branch haulage 1,900 feet long. A landing or side track has been made on No. 19 butt heading in connection with this extension. No. 1 main butt heading has been graded in such a manner that a team of mules can now pull a very much greater load and with greater ease and safety to drivers and mules. The system of drainage has also been simplified by the installation of a pump at a central point in the mine where the water all drains to, and from which point it is delivered by the said pump to the main sump at the bottom of the hoisting shaft, where it is delivered to the surface. The ventilation is good and fairly well distributed through the mine. Mine boss, George Roebuck.

Leisenring No. 2.—The developing of new work has been pushed very much with the result that a large extent of territory has been opened and the mine put in better condition than at any period of its history. A new sump has been made near the hoisting shaft bottom that has capacity to hold twelve hours accumulation of water. The ventilation is good, as is also the drainage. The mine is in excellent condition generally, and is well taken care of by the officials in charge. Mining boss, Charles Walters.

Leisenring No. 3.—The condition of this mine has been improved during the year. The gas which was formerly in the old abandoned gobs has in a great measure been removed, or rendered non-explosive by reason of its being mixed with carbonic acid gas or black-damp, which is generated in the gobs to a greater extent than formerly. A bore-hole has been drilled from the surface into the workings of the mine near where ribs are being drawn, with a view of draining the gas from the gob in that locality, but as the ribs have not been worked out to where the drill hole is located, it proves that gas cannot be drained

off until the bore hole is over the gob fall, and that the gas will not escape through solid strata into the bore hole, but that the bore hole must be in connection directly with the gob falls in order to be effective. This bore hole will be watched with interest, and if it drains off the gas which now exists in the gob where the ribs have been taken out (when these ribs have been drawn out where the bore-hole is now situated), it will prove the effectiveness of this method of draining the gases from gob workings. Other bore-holes will be drilled in various parts of the mine workings, if this experimental one proves successful. Heavy stone masonry walls were built around the shaft opening at surface for head frame foundation and shaft protection. The main heading on North side of shaft bottom was arched for 148 feet with a brick arch on stone side walls. Heading 17 feet 6 inches wide and 13½ feet high in center. Also a new arched stable was constructed the same as the arch at the shaft bottom. It is 106 feet long, 17½ feet wide and 10 feet high in center.

The ventilation is good and well distributed around the workings of the mines. Mining boss, Edward O'Toole.

Lynn.—This mine has been in operation 140 days only during the year owing to the depression in the coal trade. It is in very good condition generally. The ventilation is well carried up to the working places and abundant in volume. Drainage is also good. Mining boss and superintendent, James Harding.

Laughead.—In this mine the headings have been driven up to the boundary lines and the coal is being worked back on the retreating system. By this method nearly all the coal seam is recovered. The drainage is good; all the water is draining into the Oliphant mine workings which are to the dip, consequently no pumping is required. The ventilation is also abundant and well distributed to the working places. Mining boss, T. A. Jackson.

Lemont No. 1.—Great improvement has been made in the ventilation in this mine during the year. The old workings have to a great extent been abandoned for the time being, and the new workings have been pushed ahead rapidly. The air courses have all been repaired and a greater volume of air is now carried up to the workings of the mine. It is the desire of the management to make this mine one of the best ventilated in the coke region, and to this end they are driving new air ways to connect with an air shaft 12 feet in diameter which is now being sunk. At the top of this shaft will be erected a 12-foot Capel fan, which will have a capacity of producing about 450,000 cubic feet of air per minute. This volume of air will be carried into the mine by separate air-ways, and will be distributed in such a manner and in such volumes as will ensure a vigorous ventilating current to all parts of the mine. A new bore-hole has been drilled and a new sump made. Two new additional pumps have

been put in the mine which will give ample pumping capacity to keep it drained. The mine is now in good hands and is being well taken care of. Mining boss, Hugh Ross.

Lemont No. 2.—This mine is in its usual good condition and will not suffer from lack of attention on the part of the officers in charge. A very interesting fan test was made at this mine which gave very peculiar results. The following are the figures as given by the parties who made the tests:

Area of air way, first test, 58 square feet; second test, 58 square feet.

Velocity of air, first test, 3,450 feet; second test, 1,500 feet.

Volume of air, first test, 200,100 cubic feet; second test, 87,000 cubic feet.

Revolutions of fans per minute, first test, 68; second test, 34.

Water gauge, first test, 1.2 inches; second test, 4-10 inches.

Alcohol gauge, first test, 1.6 inches; second test, 6-10 inches.

Steam pressure, first test, 90 pounds; second test, 90 pounds.

The results above will no doubt be surprising to mining students, and will afford them food for thought to explain the results in connection with the laws of ventilation as set forth in text books. Mining boss, Elias Phillips.

Morgan.—This mine worked only 96 days during the year on account of the lack of orders. It is in very good condition and the ventilation, which is produced largely by natural means, is abundant and keeps the mine in a healthful condition. The drainage is also good. Mining boss, Thomas Coulehan.

Morrell.—The workings of this mine have reached their boundary, and the coal is now all being worked back toward the slope exhausting all the coal as it is being worked back. At the present rate at which the coal is being mined, this mine will be completely worked out in about two years. The ventilation and drainage are good. At one place a heading was driven over their property line into the fifty feet boundary pillar left by the H. C. Frick Coke Company to protect their Leisenring No. 1 mine. As soon as this fact was known, steps were taken to remedy the mistake and the heading was built up with masonry laid in cement and grouted in such a manner that it was made as strong as the original coal pillar. A squeeze occurred in a part of the mine where pillars were being drawn, which has given considerable trouble. Mining boss, John Yocum.

Mahoning.—This is a part of the Atlas mine, the two mines being connected in such a manner by underground railroads and ventilated by the same system of ventilation and are under the supervision of one mine foreman and are practically one mine.

Braddock.—This whole plant has been remodeled and almost rebuilt. The character of the improvements are as follows: During

the year twelve new dwelling houses have been built; also one iron engine house, one brick engine house, 220 new coke ovens, with sidings and larry tracks complete; one 20x20x36-inch duplex air compressor; one 30x12x36-inch Gordon plunger pump; one 24x10x30-inch Lafayette plunger pump; one 10x12x10-inch Worthington duplex plunger pump. Two return tubular boilers, six feet diameter, 18 feet long, with eighty tubes each, have been installed. One 14-inch bore-hole 400 feet deep has been put down for drainage, through which the water will be pumped from the mine to the surface. The main slope has been made nearly straight and put on grade throughout, and re-laid with heavy steel T rails. One hundred new pit cars, and two new charging larries have been added to the equipment. There is also under construction and nearly completed, a large tipple and coal bin with a capacity of about 2,000 tons of coal. Also a pair of Lane & Bodley Corliss haulage engines, 26x60-inch, first motion, with 7½ feet diameter drums, and one 9x9½x12-inch Worthington duplex condensor.

The stoppings in the mine have also been rebuilt with masonry between the main intake and return air ways. Also a number of masonry overcasts have been built, and the air current split in such a way that the ventilation is carried up to and around the workings in such a volume that the healthful condition of the mine will be assured.

The mine is being well looked after, and when all the improvements are completed this will be one of the best equipped mines in the district. Mining boss and superintendent, J. M. Franklin.

Mt. Hope.—This mine is in good condition. The natural advantages are such that it requires very little care or expense to keep it in good condition. Notwithstanding this, it is well looked after, and the persons employed do not suffer for lack of attention to the healthful condition of the mine.

The ventilation is produced mostly by natural means (although artificial means have been provided), and it is well carried up to, and around the working places.

The drainage is excellent, and not a wet or muddy road-way has been seen throughout the entire mine. Mining boss, George Armstrong.

Nellie.—This mine is in excellent condition in all respects. Mining boss, David Young.

Nellie.—Located in Coal Run, Somerset county. Connection has been made with the Statler mine belonging to the same company, and it is ventilated by the furnace in the latter mine. At none of my visits was the mine in operation, therefore I did not visit the inside of it. Mining boss, Archie Cochran.

Oliphant.—Owing to a mistake while driving a heading towards the Wynn mine (which had at the time an accumulation of water), the bore-holes which were being kept in advance of the heading, missed the heading in the Wynn mine, and the water broke through into the Oliphant mine and flooded it to such an extent that all the pumps were covered, and it became necessary to put new pumps into the mine, and a new water column of pipes had to be laid the whole length of the slope in order to pump the water out and recover the lost pumps. This was a costly operation and it took considerable time to recover the pumps and get the water out of the lower part of the mine. During the time this was being done, the coal had to be mined in the upper flats, and the developments in the lower part of the mine were very much delayed in consequence. When the lower workings were drained in order to prevent flooding in the future a large sump was made to hold sufficient water that would make a recurrence of this trouble almost impossible. One new 24x12x30-inch pipe was added to the equipment, making four in all.

The general condition of the mine is good and it is being well cared for. Mining boss, James Small.

Oliver Nos. 1 and 2.—These mines are in excellent condition in all respects. Everything is being done to keep them in a healthful and safe condition, and the fact that not a single accident has occurred in or about them during the year, is the best evidence that the lives and safety of persons employed therein are being carefully looked after. This is certainly a very gratifying report to make when the dangerous character of the mines is considered, and it shows what strict discipline and systematic methods can accomplish when properly applied.

A new opening has been made with No. 2 mine on the outcrop of the coal which has improved the ventilation in the mines, and gives an additional means of escape in case of accident. Mining boss, C. B. Ross.

Paul.—This mine is in good condition throughout. The ventilation and drainage are especially good and are above the requirements of the law.

The mine has been developed very rapidly, and consequently the headings are away ahead of the rest of the workings and a large territory of new workings has been won out. Mining boss, Robert Nelson.

Perry.—This mine is in fair condition. The workings are now confined to ribs and small branches of coal along the outcrop lines. The ventilation and drainage are very good as is also the general condition of the mine. Mining boss, Everhart Shipley.

Pine Hill.—Mine idle all year.

Redstone.—The same report may be given with reference to this mine as was given in last year's report, as the same conditions exist now as existed then, except that an effort has been made to get a greater volume of air around the face of workings where new work is being developed, by increasing the efficiency of the brattices and doors. But as was said in last year's report, the ventilating power had about reached its limit, and as the resistance to be overcome by the ventilating power increases in accordance with the length of the air way, it is obvious that no increase in the volume of air can be expected by merely having good close brattices, for if the lengths of the air ways are doubled, the resistance to be overcome will also be doubled, and consequently the effective power for producing ventilation will be proportionately decreased, hence no better results can be expected unless the resistance to the ventilating power be decreased or an increased ventilating power be put in operation. Now as the lengths of the air-ways are steadily being increased, while the fan power remains stationary, it is only a question of time until the fan will not be able to produce a sufficient volume of air for the requirements of the mine.

Two new overcasts are being constructed across the main slope and manway for the purpose of conducting the air current by a new route into the workings, which will decrease the lengths of the air ways to some extent. The air current will also be reversed and the fan which is now exhausting the air from the mine will be changed to a blower. This change will give fresh pure air direct from the fan to the face of the working places, and will carry off the impurities back up through the old workings and out at the slope and manway, instead of these impurities being taken from the old workings around the working places where the men are working, as is the case under the present method. Another great benefit which will result from this change will be that the slope and manways will then be outlets instead of inlets as at present. The coke smoke from the ovens will not then enter the mine and pollute the air current as it frequently does under existing conditions. A greater volume of air will no doubt be put in circulation by the change, as the laws of natural ventilation will then be aiding the ventilating power instead of operating against it as under the present methods.

If this change does not meet the requirements of the mine and give sufficient volume of air, another fan will be added, and the mine divided into two separate districts for ventilation.

The other conditions are good, and its safety is being well looked after. Mining boss, Elijah Parker.

Stewart.—This mine is in excellent condition and all the requirements of law are complied with and even exceeded. The ventilation, drainage and general condition is good, and the safety of the persons

employed is carefully looked after. A new air compressor 20x22x30 inches, duplex class "B," built by the Rand Drill Company, New York, was installed during the year. Mining boss, Isaac G. Roby.

Snider.—This mine has not at any time during the year employed more than nine persons, consequently it did not come under the requirements of the law. Mining boss, Robert Wilson.

Smock.—This mine is in fairly good condition and is well looked after. The ventilation is well carried up to and around the working places. Mining boss, Benjamin Holiday.

Statler.—This mine is in fair condition as to ventilation, but on account of loose discipline the miners are allowed to blast coal at all hours, thus vitiating the air current unnecessarily by powder smoke. The drainage is good. Mining boss, Orlando Flesher.

Shaws.—This large mine is in a very excellent condition. The ventilation is ample for the requirements of the mine and is well distributed throughout the workings. A shaft has been sunk and a boiler erected from which steam is conducted to a pump in the mine which pumps the water up the shaft. The water from all parts of the mine drains to the sump near the pump. This arrangement gives very satisfactory results and solves the drainage question for this mine for all time to come. Mining boss, James Phillips.

Standard.—This mine was operated sixty-five days only during the year, and produced 8,000 tons of coal. It is in fair condition except in one part where the ventilation was not very vigorous. A new opening to the surface was being made in that part of the mine which will improve the ventilation in the near future. Mining boss, C. J. Baker.

Tub Mill Run.—This mine has not been in operation more than half time during the year. At each of my visits the mine was idle, and for the most of the year did not employ more than eight or nine men and was therefore not under the provisions of the law. Mining boss, John Rees.

Thomas.—A new opening and a new incline plane were erected during the year; also a new tipple and side tracks. In fact the whole outside arrangements have been removed to a new location. An air shaft was sunk and a furnace built. The new opening will give better drainage to the mine and will also improve the ventilation very materially. These have improved the mine considerably. Mine boss, Benjamin Thomas.

Trotter.—This mine is in excellent condition with reference to ventilation and drainage. A branch haulage 2,300 feet long with a landing for empty and full trips has been constructed on No. 2 butt heading west. A new stable was also erected during the early part of the year at a cost of $2,100. Mining boss, James Hart.

Uniondale.—Operations have been commenced again after the mine

having been idle for a number of years. The operations are confined to the recovery of rib coal.

The ventilation was somewhat defective in some parts of the mine until a heading was put through the old workings and made a return for the air. This has improved the ventilation. The general condition of the mine is fairly good. Mining boss, James L. Allen.

Victoria.—The condition of this mine has not been very much improved from what it was last year. The same loose slipshod methods are continued.

The ventilation is conducted better than formerly, but still there is much room for improvement.

The drainage is bad, and the whole condition of the mine shows a lack of system and discipline. Everything appears to be running at hazard with the chances favoring a speedy termination to the operations of the mine in the near future. Mining boss, Peter McAlinden.

Wynn.—This mine was in operation thirty-six days only during the year when it was stopped and allowed to fill with water, which broke through into the Oliphant mine and flooded the lower workings of the latter place.

A connection has now been made between these two mines, and they will be in future operated as one mine, under the direction and control of one mine foreman. The system of railroads and the same ventilating currents will be connected in such a manner that they will be virtually one mine. Mining boss, Henry Wilson.

Wheeler.—This mine is fast becoming exhausted and will soon be worked out. The condition is good, and it is very carefully looked after, and every precaution is taken to insure healthfulness and safety. Mining boss, David P. Brown.

Washington.—This mine is in its usual excellent condition. Everything indicates careful supervision and close attention to the welfare of the persons employed, and also to their health and safety, as well as to the condition of the mine. The dip workings have been developed rapidly and the prediction I made in last year's report that "as the workings extend into the basin, explosive gas may be expected" has been verified, as explosive gas has been found in a considerable volume in the dip headings, but fortunately its presence is confind to the two dip headings which appear to be draining the rest of the coal field. The dip headings are pushed away ahead of the rest of the workings with the express purpose of draining off as much of this gas as possible. These headings are worked with locked safety lamps and are under the immediate supervision of the fire boss and every precaution is taken to avert accidents.

There have been 270 coke ovens built during the year and a new coal crusher and elevator have also been erected. These mines have produced the largest tonnag in th district this year; 349,771 tons of

coal having been taken out, which is nearly 1,125 tons per day. Mining boss, George Santimeyer.

Walker.—This mine is in fair condition. It has not worked very steadily during the year. The ventilation is fairyl well conducted around the working places and is ample for the requirements of the mine. The other conditions for drainage and safety are also fair. Mining boss, Robert Easton.

Yoder.—A new opening has been made on the opposite side of the hill from where the present opning is located, which shows a thicker coal and of better quality than in the old mine. This mine has not at any time during the year employed enough men to bring it under the requirements of law. Mining boss, C. P. Hersh.

Youngstown.—The workings in the lower part of the slope have been developed very extensively during the year, and a large area of new territory has been opened out. The bad roof still continues to interfere with the safety of the mine, which necessitates additional expense to operate it under these unfavorable conditions. Great care, however, is being exercised by the officials in charge to prevent accidents, and they have been very fortunate in this respect, considering the unfavorable conditions they have to contend with.

The ventilation is somewhat impeded along the line air course on the left side of the slope, owing to the numerous falls and obstructions which are due to a squeeze from the old workings of the mine, and also of the adjoining mine, Lemont No. 1. However, the men do not suffer for want of air, as there is more than the law requires for the number of person employed. Mining boss, James Exton.

Table No. 1.—Showing location &c., of collieries in the Fifth Bituminous Mine District.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Postoffice Address.
1. Atlas,	Cambria Iron Company,	Fayette,	Martin Meagher,	New Haven.
2. Anchor,	Atcheson Coke Company,	Fayette,	William Duncan,	Dunbar.
3. Bessie,	Lynn Coal Company,	Fayette,	George Whyel,	Perryopolis.
4. Buffalo,				
5. Berlin,	John O. Stoner,	Somerset,	Neven Long,	Berlin.
6. Casselman,	Casselman Coal Company,	Somerset,	William G. Hocking,	Meyersdale.
7. Cumberland,	Cumberland & Summit Coal & Coke Co.,	Somerset,	Fred. Rowe,	Meyersdale.
8. Clarissa,	James Cochran Sons & Co.,	Fayette,	P. G. Cochran,	Dawson.
9. Chester,	E. A. Humphries & Co.,	Fayette,	R. J. Humphries,	Vances Mill
10. Crossland,	The Atlas Coke Co.,	Fayette,	James Henderson,	Uniontown.
11. Cheat Haven,	Cheat Haven Coal Co.,	Fayette,	Christian Echard,	Cheat Haven.
12. Edna,	Connellsville and Ursina Coal & Coke Co.,	Somerset,	E. H. Reed,	Scottdale.
13. Elm Grove,	W. J. Rainey,	Fayette,	T. J. Mitchell,	Vanderbilt.
14. Elenora,	J. D. Boyd Coal Company,	Fayette,	J. D. Boyd,	Uniontown.
15. Fairchance,	H. C. Frick Coke Co.,	Fayette,	George B. Irvin,	Fairchance.
16. Ferguson,	Dunbar Furnace Co.,	Fayette,	Robert Lang, Sr.,	Dunbar.
17. Fairview	Fairview Coal Co.,	Somerset,	Thomas Rees,	Meyersdale.
18. Grindstone,	Redstone Oil, Coal and Coke Co.,	Fayette,	W. R. Wilson,	Bishop.
19. Great Bluff,	E. A. Humphries & Co.,	Fayette,	A. E. Humphries,	Dunbar.
20. Grassy Run,	Grassy Run Coal Co.,	Somerset,	John Meagher,	Elk Lick.
21. Hocking,	Chapman Hocking Coal Co.,	Somerset,	John T. Hocking,	Meyersdale.
22. Hopkins,	Washington Coal and Coke Co.,	Fayette,	J. S. Newmeyer,	Dawson.
22. Hill Farm,	Dunbar Furnace Co.,	Fayette,	Robert Lang, Sr.,	Dunbar.
24. Hurst,	Hurst & Co.,	Fayette,	S. C. Hurst,	Smock.
25. Juniata,	Juniata Coke Co.,	Fayette,	Adam Nicholson,	Juniataville.
26. Kyle,	H. C. Frick Coke Co.,	Fayette,	George B. Irvin,	Fairchance.
27. Keystone,				
28. Leith,	H. C. Frick Coke Co.,	Fayette,	Harry Whyel,	Uniontown.
29. Leisenring No. 1,	H. C. Frick Coke Co.,	Fayette,	Austin King,	Leisenring.
30. Leisenring No. 2,	H. C. Frick Coke Co.,	Fayette,	C. J. Warnock,	West Leisenring.
31. Leisenring No. 3,	H. C. Frick Coke Co.,	Fayette,	W. H. Hugus,	Leisenring.
32. Lynn,	Hanna Bros.,	Fayette,	James Harding,	Brownsville.
33. Laughead,	Martin Coke Co.,	Fayette,	E. D. Humphries,	Fairchance.
34. Lemont No. 1,	McClure Coke Co.,	Fayette,	M. H. Kerr,	Lemont Furnace.
35. Lemont No. 2,	McClure Coke Co.,	Fayette,	M. H. Kerr,	Lemont Furnace.
36. Morgan,	Geo. H. Duncombe & Co.,	Somerset,	Geo. H. Duncombe,	Meyersdale.
37. Morrell,	Cambria Iron Co.,	Fayette,	Martin Meagher,	New Haven.
38. Mahoning	Cambria Iron Co.,	Fayette,	Martin Meagher,	New Haven.
39. Mt. Braddock,	W. J. Rainey,	Fayette,	J. M. Franklin,	Mt. Braddock.
40. Mt. Hope,	Isaac Taylor & Co.,	Fayette,	Isaac Taylor,	Dunbar.
41. Nellie,	Brown & Cochran,	Fayette,	J. R. Laughrey,	Dawson.
42. Nellie,	Merchant Coal Co. & E. Statler,	Somerset,	E. Statler,	Elk Lick.
43. Olyphant,	H. C. Frick Coke Co.,	Fayette,	C. C. Gadd,	Oliphant Furnace.
44. Oliver No. 1,	Oliver Coke and Furnace Co.,	Fayette,	Fred. C. Keighley,	Uniontown.
45. Oliver No. 2,	Oliver Coke and Furnace Co.,	Fayette,	Fred. C. Keighley,	Uniontown.

46. Paul.	W. J. Rainey.	Fayette.	T. J. Mitchell.	Vanderbilt.
47. Percy.	Percy Mining Co..	Fayette.	Louis de Saulles.	Percy.
48. Pine Hill				
49. Redstone.	H. C. Frick Coke Co..	Fayette.	Leonard Bullion.	Brownfield.
50. Stewart.	Stewart Iron Co., Limited.	Fayette.	Samuel McClure.	Sharon.
51. Snider.	John Snider.	Fayette.	John Snider.	Uniontown.
52. Smock	J. D. Boyd Coal Co..	Fayette.	J. D. Boyd.	Uniontown.
53. Statler.	Merchant Coal Co., and E. Statler.	Somerset.	E. Statler.	Elk Lick.
54. Shaws.	Cumberland and Elk Lick Coal Co..	Somerset.	A. Chamberland.	Meyersdale.
55. Standard	Berlin Mining Co..	Somerset.	J. C. Wetmiller.	Berlin.
56. Tub Mill Run.	Fairview Coal Co..	Somerset.	Thomas Rees.	Meyersdale.
57. Thomas.	Benj. Thomas & Son.	Somerset.	Benj. Thomas.	Meyersdale.
58. Trotter.	H. C. Frick Coke Co..	Fayette.	P. J. Formay.	New Haven.
59. Uniondale.	Reid Bros..	Fayette.	R. B. Reid.	Dunbar.
60. Victoria	Whitsett & Luce.	Fayette.	J. L. Luce.	Perryopolis.
61. Wynn.	H. C. Frick Coke Co..	Fayette.	C. C. Gadd.	Oliphant Furnace.
62. Wheeler.	Cambria Iron Co..	Fayette.	Martin Meagher.	New Haven.
63. Washington.	Washington Coal and Coke Co..	Fayette.	J. S. Newmeyer.	Dawson.
64. Walker.	Merchant Coal Co., and E. Statler.	Somerset.	E. Statler	Elk Lick.
65. Yoder.	Cumberland Coal and Mining Co..	Somerset.	Norman Ringler.	Coal Run.
66. Youngstown.	H. C. Frick Coke Co..	Fayette.	C. M. Shank.	Lemont Furnace

TABLE No. 2.—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder used, etc., in the Fifth Bituminous Mining District, for the year ending December 31, 1896

Names of Collieries.	Location.	Total production in tons of coal.	Total production in tons of coke.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Number coke ovens.
1. Atlas,	Fayette,	13,183	10,077	.....	55	86	.....	.....	.....	5	6	.....	80
2. Anchor,	Fayette,	4,504	4,176	.....	33	78	.....	.....	.....	5	3	.....	100
3. Bessie,	Fayette,	51,000	.....	51,000	251	64	.....	.....	550	1	3	.....	.....
4. Buffalo,*	Somerset,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5. Berlin,	Somerset,	6,804	.....	5,528	242	11	.....	.....	50	.....	2	.....	.....
6. Casselman,	Somerset,	24,000	.....	24,000	106	29	.....	.....	180	2	4	.....	.....
7. Cumberland,	Somerset,	74,016	.....	74,016	293	96	.....	.....	620	.....	6	.....	10
8. Clarissa,	Fayette,	79,500	53,000	.....	287	88	.....	1	.....	.....	8	.....	108
9. Chester,	Fayette,	16,601	12,694	.....	151	38	.....	.....	100	3	3	.....	40
10. Crossland,	Fayette,	83,852	56,470	.....	311	98	.....	.....	2	1	6	.....	100
11. Cheat Haven,	Fayette,	15,000	.....	15,000	280	32	.....	.....	175	.....	6	.....	.....
12. Edna,	Somerset,	587	.....	298	88	2	.....	.....	.....	.....	1	.....	.....
13. Elm Grove,	Fayette,	50,000	33,300	.....	280	78	.....	3	.....	3	8	.....	218
14. Elenora,	Fayette,	23,040	2,000	23,040	288	25	.....	.....	250	.....	2	.....	6
15. Fairchance,	.....	39,000	25,090	.....	195	80	.....	.....	.....	3	18	.....	142
16. Feruson,	Fayette,	32,534	18,139	.....	201	62	.....	.....	.....	2	5	.....	70
17. Fairview,	Somerset,	51,963	.....	51,963	184	84	.....	1	586	.....	7	.....	.....
18. Grindstone,	Fayette,	17,699	1,181	12,167	72	32	1	.....	179	3	6	.....	31
19. Great Bluff,	Fayette,	8,153	5,425	.....	224	15	.....	1	.....	1	3	.....	16
20. Grassy Run,	Somerset,	17,985	.....	17,985	177	25	.....	1	207	.....	3	.....	.....
21. Hocking,	Somerset,	57,557	.....	57,557	245	56	.....	2	550	.....	4	.....	.....
22. Hopkins,	Fayette,	25,000	.....	25,000	200	33	.....	.....	15	1	2	.....	.....
23. Hill Farm,	Fayette,	65,283	31,661	307	249	119	2	.....	.....	5	16	.....	150
24. Hurst,	Fayette,	25,000	.....	25,000	250	53	1	2	270	1	3	.....	.....
25. Juniata,	Fayette,	211,568	135,168	.....	288	240	2	.....	.....	5	16	.....	250
26. Kyle,	Fayette,	41,000	26,026	.....	202	80	.....	1	.....	2	21	.....	164

27. Keystone,*	Somerset,													
28. Leith,	Fayette,	145,000	88,100		259	199		1		6	26	1	300
29. Leisenring No. 1,	Fayette,	223,000	145,600		257	310	1	3		8	40	1	500
30. Leisenring No. 2,	Fayette,	224,000	143,780		255	318	2	1		10	42	2	500
31. Leisenring No. 3,	Fayette,	218,699	141,900		253	285	1	4		9	41	2	504
32. Lynn,	Fayette,	8,624		8,624	140	27			57		3		
33. Laughead,	Fayette,	43,595	28,388		302	59	1		30	2	6		50
34. Lemont No. 1,	Fayette,	109,809	75,437		257	183	1			5	14		227
35. Lemont No. 2,	Fayette,	141,445	95,768		256	256				6	19		350
36. Morgan,	Somerset,	8,494		8,419	96	27			85		2		
37. Morrell,	Fayette,	315,845	231,681		298	366	1	4		11	36		400
38. Mahoning,	Fayette,	33,235	21,246		107	100				5	6		100
39. Mt. Braddock,	Fayette,	64,809	48,600		280	281				11	40		390
40. Mt. Hope,	Fayette,	37,016	24,678		299	40			96	1	3		40
41. Nellie,	Fayette,	286,680	191,120		285	310	1	1		3	25		329
42. Nellie,	Somerset,	13,440		13,440	200	22							
43. Oliphant,	Fayette,	81,000	52,000		246	194				6	8		152
44. Oliver No. 1,	Fayette,	166,821	131,540	2,051	227	323				7	23	1	328
45. Oliver No. 2,	Fayette,	96,245	76,936	806	132	288				4	17	1	300
46. Paul,	Fayette,	288,750	192,500		275	406	1	1		8	25		415
47. Percy,	Fayette,	22,502	14,900	214	243	40	1			3	7		36
48. Pine Hill,*	Somerset,												
49. Redstone,	Fayette,	195,600	128,600		259	200	1	2	4	14	39	2	446
50. Stewart,	Fayette,	82,566	51,145		202	126				5	7		120
51. Snyder,	Fayette,	4,824		4,824	204	10					2		
52. Smock,	Fayette,	93,390		93,107	283	97	1		810	1	12		
53. Statler,	Somerset,	56,000		56,000	225	78		1	588		4		
54. Shaws,	Somerset,	147,799	9,086	134,169	274	154		7		2	12		75
55. Standard,	Somerset,	8,000		8,000	65	31							
56. Tub Mill Run,	Somerset,	3,472		3,472	120	12			50		1		
57. Thomas,	Somerset,	21,009		20,729	288	23					1		
58. Trotter,	Fayette,	212,000	140,970		258	247		4		8	33		464
59. Uniondale,	Fayette,	10,243	7,897		181	48				4	3		74
60. Victoria,	Fayette,	20,500		20,000	164	33		2		1	2		
61. Wynn,	Fayette,	4,100	2,700		36	62			2	2	8		70
62. Wheeler,	Fayette,	73,640	53,853		248	108		1		4	8		103
63. Washington,	Fayette,	349,771	43,089	285,138	311	425			2,600	4	46		320
64. Walker,	Somerset,	26,000		26,000	200	50			360		3		
65. Yoder,	Somerset,	7,766		7,766	180	12			100				
66. Youngstown,	Fayette,	113,000	73,600		225	160		4		7	23	1	240
Total,		4,979,410	2,629,541	1,075,620	13,572	7,524	18	48	8,516	203	737	11	8,318

* Idle all the year.

TABLE No. 3.—Showing the number of each class of employes at each colliery in the Fifth Bituminous Mine District, during the year 1896.

Names of Collieries.	Location.	Number of Persons Employed Inside.						Number of Persons Employed Outside.						
		Miners.	Miners' boys.	All company men.	Drivers and runners.	Doorboys and helpers.	Total inside.	Blacksmiths and carpenters.	Engineers and firemen.	Cokers and yardmen.	All company men.	Superintendents, bookkeepers and clerks.	Total outside.	Grand totals—inside and outside.
1. Atlas,	Fayette,	45	.....	6	4	.....	55	1	2	25	2	1	31	86
2. Anchor,	Fayette,	35	.....	7	2	.....	44	1	2	27	3	2	34	78
3. Bessie,	Fayette,	50	2	1	3	.....	56	1	2	.....	3	2	8	64
4. Buffalo*	Somerset,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5. Berlin,	Somerset,	7	.....	1	1	.....	9	.....	.....	.....	1	1	2	11
6. Casselman,	Somerset,	20	.....	1	3	.....	24	.....	2	.....	2	1	5	29
7. Cumberland,	Somerset,	76	6	2	4	2	90	2	.....	.....	3	1	6	96
8. Clarissa,	Fayette,	46	.....	2	8	.....	56	1	.....	27	2	2	32	88
9. Chester,	Fayette,	22	.....	1	3	.....	26	1	1	8	1	1	12	38
10. Crossland,	Fayette,	45	.....	2	4	1	52	1	1	40	2	2	46	98
11. Cheat Haven,	Fayette,	18	.....	4	3	.....	25	1	.....	.....	4	2	7	32
12. Edna,	Somerset,	2	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2
13. Elm Grove,	Fayette,	35	.....	4	5	.....	44	5	3	25	.....	1	34	78
14. Elenora,	Fayette,	18	.....	.....	2	.....	20	1	.....	1	2	1	5	25
15. Fairchance,	Fayette,	38	.....	2	3	.....	43	2	3	18	12	2	37	80
16. Ferguson,	Fayette,	25	.....	5	3	.....	33	1	3	20	4	1	29	62
17. Fairview,	Somerset,	57	10	3	7	.....	77	1	.....	.....	5	1	7	84
18. Grindstone,	Fayette,	60	1	4	3	1	69	2	2	4	4	1	13	82
19. Great Bluff,	Fayette,	7	.....	1	1	.....	9	.....	1	4	.....	1	6	15
20. Grassy Run,	Somerset,	20	3	.....	2	.....	25	.....	.....	.....	.....	.....	.....	25
21. Hockings,	Somerset,	49	.....	1	4	2	56	.....	.....	.....	.....	.....	.....	56
22. Hopkins,	Fayette,	25	.....	2	3	.....	30	.....	1	.....	1	1	3	33
23. Hill Farm,	Fayette,	52	.....	14	7	.....	73	3	4	26	12	1	46	119
24. Hurst,	Fayette,	40	.....	3	2	.....	45	1	2	.....	3	2	8	53

25. Juniata	Fayette	125	.....	14	14	1	154	3	4	68	9	2	86	240
26. Kyle	Fayette	45	.....	3	3	.....	51	2	2	18	5	2	29	80
27. Keystone.*	Somerset	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
28. Leith	Fayette	85	3	13	10	2	113	2	8	62	12	2	86	199
29. Leisenring No. 1	Fayette	138	.....	27	15	5	185	5	6	82	29	3	125	310
30. Leisenring No. 2	Fayette	161	.....	17	12	5	195	5	5	90	29	3	123	318
31. Leisenring No. 3	Fayette	133	4	20	11	3	171	5	6	85	16	2	114	285
32. Lynn	Fayette	21	2	.....	2	.....	25	.....	.....	.....	1	1	2	27
33. Laughead	Fayette	25	.....	1	2	.....	28	2	2	15	10	2	31	59
34. Lemont No. 1	Fayette	74	5	20	8	2	109	3	6	51	12	2	74	183
35. Lemont No. 2	Fayette	106	2	19	12	2	141	4	6	81	22	2	115	256
36. Morgan	Somerset	20	1	3	2	.....	26	.....	.....	.....	1	.....	1	27
37. Morrell	Fayette	150	7	10	28	5	200	4	7	135	16	4	166	366
38. Mahoning	Fayette	51	.....	6	4	.....	61	2	3	31	2	1	39	100
39. Mt. Braddock	Fayette	60	.....	10	6	1	77	12	8	30	150	4	204	281
40. Mt. Hope	Fayette	22	.....	.....	4	.....	26	.....	.....	13	.....	1	14	40
41. Nellie	Fayette	180	.....	10	18	6	214	3	4	80	6	3	96	310
42. Nellie	Somerset	18	2	.....	2	.....	22	.....	.....	.....	.....	.....	.....	22
43. Oliphant	Fayette	50	.....	6	4	.....	60	2	3	25	12	2	44	104
44. Oliver No. 1	Fayette	136	.....	24	17	4	181	9	5	93	31	4	142	323
45. Oliver No. 2	Fayette	139	.....	28	18	5	190	1	3	86	8	.....	98	288
46. Paul	Fayette	250	.....	18	15	1	284	4	5	100	12	1	122	406
47. Percy	Fayette	18	.....	2	3	.....	23	1	.....	12	3	1	17	40
48. Pine Hill.*	Somerset	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
49. Redstone	Fayette	99	.....	9	14	2	115	5	10	55	13	2	85	200
50. Stewart	Fayette	53	.....	5	5	.....	63	2	3	45	9	2	63	126
51. Snider	Fayette	8	.....	.....	1	.....	9	.....	.....	.....	.....	1	1	10
52. Smock	Fayette	75	2	2	7	.....	86	2	1	.....	5	3	11	97
53. Statler	Somerset	71	.....	1	4	.....	76	1	.....	.....	.....	1	2	78
54. Shaws	Somerset	102	10	5	12	4	133	1	2	8	8	2	21	154
55. Standard	Somerset	28	.....	.....	2	.....	30	.....	.....	.....	1	.....	1	31
56. Tub Mill Run	Somerset	8	2	.....	1	.....	11	.....	.....	.....	.....	1	1	12
57. Thomas	Somerset	18	1	.....	1	.....	20	.....	.....	.....	3	.....	3	23
58. Trotter	Fayette	125	10	23	10	5	173	4	5	95	17	3	124	297
59. Uniondale	Fayette	17	.....	10	2	.....	29	1	1	14	1	2	19	48
60. Victoria	Fayette	25	.....	2	2	.....	29	.....	1	.....	2	1	4	33
61. Wynn	Fayette	30	.....	1	4	.....	35	1	2	19	4	1	27	62
62. Wheeler	Fayette	48	6	3	5	.....	62	2	3	38	3	.....	46	108
63. Washington	Fayette	250	5	15	22	2	294	4	4	105	15	3	131	425
64. Walker	Somerset	37	3	1	3	.....	44	1	.....	.....	4	1	6	50
65. Yoder	Somerset	9	2	.....	.....	.....	11	.....	.....	.....	1	.....	1	12
66. Youngstown	Fayette	66	.....	13	9	2	90	3	7	50	8	2	70	160
		3,859	89	497	391	63	4,899	121	153	1,811	536	94	2,715	7,524

* Idle all the year.

TABLE No. 4.—List of Fatal Accidents that occurred in and about the mines of the Fifth Bituminous Mine District, for the year ending December 31, 1896.

Date of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 7,	John Imri,	Miner,	40	S.	....	Leisenring No. 3,	Fayette,	Cut himself with an axe while pointing a cap piece. The wound was not serious, but blood poisoning resulted and he died in Connellsville Hospital on January 29th.
17,	Joseph Prishtosh,	Driver,	25	M.	...	Leisenring No. 3,	Fayette,	The wagon knocked a post out when coming out of a room. The roof fell on him and before he could be taken out he died. No wounds were visible on him and he was supposed to have been suffocated.
17,	Isaac Kinsel,	Miner,	44	M.	....	Percy,	Fayette,	Injured by a fall of coal in his working place. Died from the effects three days afterward.
24,	Joseph Roth,	Driver,	16	S.	....	Redstone,	Fayette,	Caught between rib and wagon. No person was present at time of accident. Was found lying unconscious. Died next day.
25,	George Hugh,	Coke hauler,	17	S.	....	Laughead,	Fayette,	Run over by empty cars on tramroad, and died from effects of injuries next day.
Mch. 5,	George Beveridge,	Miner,	35	M.	2	Smock,	Fayette,	Instantly killed by a fall of coal in his working place.
20,	John Seman,	Miner,	28	M.	....	Juniata,		These two men were instantly killed by a fall of roof while at work drawing out entry stumps.
20,	Joseph Lopeck,	Miner,	30	M.	3	Juniata,	Fayette,	
April 3,	Albert Shultz,	Miner,	32	M.	2	Morrell,	Fayette,	Killed by a fall of roof while drawing out ribs. He went behind the "break row" after the post had been drawn out.

	6.	William Williamson, ...	Miner, ...	36	M.	4	Hill Farm, ...	Fayette, ...	While drawing out posts in a rib the roof coal fell on him, injuring him about the back and also internally. Died a few days later in the hospital.
	23.	Steve Obilen, ...	Miner, ...	20	S.	....	Grindstone, ...	Fayette, ...	Neck broken; caused by putting his head out of the ascending cage and it came in contact with the cross-timbers in the shaft.
May	18.	Jospeh Jeviney, ...	Miner, ...	26	S.	....	Paul, ...	Fayette, ...	Was shoveling coal out of the gob behind the posts when some roof coal fell on him and killed him.
	26.	Frederick Golden, ...	Engineer, ...	24	S.	....	Leisenring No. 2, ...	Fayette, ...	Caught between the rib and a loaded wagon. Died in 30 minutes.
	28.	Michael Stanto, ...	Miner, ...	26	S.	....	Hurst, ...	Fayette, ...	While undermining coal he failed to set a sprag under it. The coal having been shattered by a previous shot, fell upon him, killing him instantly.
July	23.	John Krader, ...	Laborer, ...	27	M.	....	Hill Farm, ...	Fayette, ...	Found dead on the slope, where he had been working. Skull fractured. Indications were that he had been struck by a trip of empty cars.
Oct.	28.	Joseph Garrick, ...	Miner, ...	35	M.	3	Leisenring No. 1, ...	Fayette, ...	Was standing at the mouth of a room between empty wagon and rib. A loaded trip which was passing caught the empty car and squeezed him against the rib, killing him instantly.
Nov.	9.	Richard Keller, ...	Carpenter, ...	36	M.	2	Lemont No. 1, ...	Fayette, ...	Run over by a trip of empty cars on the slope. Was found under one of the cars, dead.
	23.	John Char, ...	Coke drawer, ...	27	M.	3	Nellie, ...	Fayette	Killed by falling into a coke car while wheeling a barrow full of coke on gang-plank on the car.

TABLE No. 5.—List of Non-Fatal accidents that occurred in and about the mines of the Fifth Bituminous Mine District, for the year ending December 31, 1896.

Date of accident.	Name of Person.	Occupation.	Age.	Married.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 7,	John Albright,	Driver,	24	....	Shaws,	Somerset,	Foot run over by a loaded wagon
7,	George Kelvey,	Miner,	35	M.	Leisenring No. 3,	Fayette,	Finger injured to such an extent that amputation was necessary.
11,	George Riley,	Miner,	24	M.	Hocking,	Somerset,	Back and hip bruised by fall of breast coal while he was undermining.
13,	W. H. Green,	Charger,	....	M.	Redstone,	Fayette,	Leg broken by a "charging larry" jumping the track.
14,	Adolph Fischer,	Miner,	38	M.	Trotter,	Fayette,	Ankle dislocated by being caught between wagon and rail.
16,	Jacob Robottom,	Miner,	21	S.	Leisenring No. 3,	Fayette,	Front bone on right leg broken and flesh wound on left foot, caused by fall of rock while drawing post on rib.
Feb. 3,	John Kite,	Boss driver,	37	S.	Trotter,	Fayette,	Foot bruised by being caught between bumper of car and rail.
11,	Frank Bordest,	Miner,	35	M.	Clarissa,	Fayette,	Left leg broken by fall of slate while drawing out posts on rib.
17,	Peter Shultz,	Miner,	43	....	Shaws,	Somerset,	Shoulder hurt by fall of breast coal.
19,	Mike Forheshofty,	Miner,	24	S.	Leisenring No. 2,	Fayette,	Head and face cut and bruised by fall of coal and slate.
24,	John Lowrey,	Miner,	22	S.	Statler,	Somerset,	Right ankle sprained and back and thigh bruised, caused by fall of top coal.
Mch. 6,	Peter McCormick,	Driver,	38	M.	Morrell,	Fayette,	Wrist dislocated by being caught between wagon and rib.
9,	Lewellen Lewellen,	Driver,	40	M.	Leisenring No. 1,	Fayette,	Arm broken by being caught between mine cars.
April 1,	John Austin,	Miner,	52	....	Shaws,	Somerset,	Leg broken by fall of breast coal.
4,	John Jenkins,	Driver,	34	M.	Kyle,	Fayette,	Small bone of leg broken by being caught between cars on slope

	7.	John Chumcek,	Miner,	26	S.	Leisenring No. 3,	Fayette,	Partial paralysis, caused by injury to spinal cord, received while riding on a loaded car in the mine. He was squeezed between roof and car.
	22.	John Dodson,	Driver,	21	S.	Elm Grove,	Fayette,	Went into a heading for a loaded car where gas had been generated, he having an open light. The gas ignited and burned him severely.
	23.	John Dubois, Sr.,	Miner,	45	S.	Elm Grove,	Fayette,	These men went over and beyond a danger signal which was fenced off, into a place where gas had accumulated, and ignited it and they were severely burned.
	23.	John Dubois, Jr.,	Miner,	22	S.	Elm Grove,	Fayette,	
May	1.	Ernest Schell,	Driver,	47	M.	Leisenring No. 1,	Fayette,	Two ribs broken and collar bone hurt. He was on bumper of car and was caught between top of wagon and roof.
	2.	Paul Malatsin,	Miner,	45	S.	Paul,	Fayette,	Squeezed between two cars while riding on the drivers' trip.
	9.	Dan Flaugherty,	Miner,	35	S.	Morrell,	Fayette,	Left leg broken by fall of roof while at his working place drawing stumps.
	9.	Elmer Hartford,	Miner,	28	M.	Youngstown,	Fayette,	While at work on the rib, the roof fell on him spraining his leg and bruising his body severely.
	11.	Thomas Rapstone,	Miner,	34	M.	Youngstown,	Fayette,	Hand severely cut. His partner while shoveling coal struck him on the hand accidentally with shovel.
	12.	Galloway Stotler,	Driver,	18	S.	Shaws,	Somerset,	Squeezed and hurt between trap door and car.
	15.	Gust Ralsenberg,	Miner,	33	S.	Morrell,	Fayette,	One leg broken below the knee; the other foot badly bruised by fall of roof coal and slate while drawing out posts.
June	1.	Chas. Jones,	Driver,	26	S.	Wheeler,	Fayette,	Shoulder dislocated by car leaving the track and catching him between rib and car.
	5.	Miks McCullough,	Miner,	45	S.	Victoria,	Fayette,	Seriously injured by falling from a mine wagon.
July	4.	Thomas Meyers,	Pumper,	....	M.	Leith,	Fayette,	The engineer made a mistake in not reversing the engine, and Meyers was hoisted up and dumped into the coal bin, bruising him about the body.
	6.	Joe Cleanarchick,	Miner,	45	M.	Leisenring No. 3,	Fayette,	Right leg bruised by a piece of slate falling from side of rib.
	10.	Andy Madder,	Miner,	21	S.	Victoria,	Fayette,	Arm and leg fractured, caused by coal falling on him while at work.
	10.	William McFadden,	Miner,	26	S.	Youngstown,	Fayette,	Foot squeezed severely while hitting a wagon on track.
	28.	Frank Loukoto,	Driver,	18	S.	Redstone,	Fayette,	Arm broken above the wrist while coupling cars on slope.

Table No. 5.—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
July 29,	Patrick McCaine,	Driver,	30	M.	Leisenring No. 1,	Fayette,	Squeezed between roof and top of wagon. Body was badly bruised.
Aug. 13,	Andy Warwick,	Miner,	45	M.	Nellie,	Fayette,	Leg broken by fall of coal from rib.
Sept. 1,	August Fink,	Driver,	20	S.	Trotter,	Fayette,	Scalp badly torn and shoulders severely bruised by being caught between wagon and rib.
5,	George Boring,	Roadsman,	35	S.	Great Bluff,	Fayette,	Left leg broken below the knee; also bruised about the body. Car knocked out a post and the slate fell upon him.
8,	William Seggie,	Miner,	23	....	Shaws,	Somerset,	Leg hurt by fall of coal.
Oct. 20,	Martin Reddy,	Driver,	32	S.	Morrell,	Fayette,	While lifting a car on the track the car came down on his leg, breaking it below the knee.
21,	William Scott,	Pumper,	22	....	Shaws,	Somerset,	Leg broken in two places by a fall of coal and roof.
27,	Peter Connelly,	Miner,	49	M.	Fairview,	Somerset,	Three ribs broken, cut on head and hurt internally by fall of roof coal in his room.
Nov. 4,	John Burkhart,	Miner	35	M.	Grassy Run,	Somerset,	Leg broken; while undermining breast of coal it fell on him.
17,	Peter Hawser,	Miner,	23	S.	Hurst,	Fayette,	Scalp wound caused by a fall of coal in his working place.
29,	John Shevitz,	Miner,	45	S.	Hurst,	Fayette,	Leg hurt above the knee by a piece of slate falling on him.
Dec. 8,	Peter Fink,	Trapper,	14	S.	Trotter,	Fayette,	Run over by loaded wagon, injuring his leg so seriously as to render amputation necessary.
9,	Chas. Glessner,	Miner,	33	....	Shaws,	Somerset,	Squeezed by a horse against a mine car, injuring him severely.
11,	William Cole,	Driver,	26	S.	Youngstown,	Fayette,	Foot mashed by being run over by loaded mine car.
16,	Patrick Tighe,	Miner,	42	M.	Hocking,	Somerset,	Bruised about hips and head, and hand cut. A fall of coal dislodged a prop, and the top coal fell on him.

SIXTH BITUMINOUS DISTRICT.

(CAMBRIA, SOMERSET AND INDIANA COUNTIES.)

Johnstown, Pa., Feb. 22, 1897.

Hon. James W. Latta, Secretary of Internal Affairs, Harrisburg, Pa.:

Sir:—I have the honor to present my twelfth annual report as Inspector of the Sixth Bituminous Coal District of this State.

The usual tables will be found, together with an additional one, giving information on the following matters concerning each mine in the district: method of ventilation, haulage, how mining is done whether by "pick" or "machine," and whether worked by drift, slope or shaft. There are also a few brief remarks on accidents and some suggestions as to safer plans of mining.

The total production of coal for the year, 4,722,873 net tons, showing an increase of 316,120 tons over that of 1895.

Very respectfully,

J. T. EVANS,
Inspector of Mines.

Miscellaneous Statistics of the Sixth Bituminous District for the year 1896.

Number of fatal accidents,	11
Number of non-fatal accidents,	16

Causes of Fatal Accidents.

Falls of coal,	10
Fall of rock,	1
Total,	11

Causes of Non-fatal Accident.

Falls of coal,	2
Falls of rock,	3
Mine wagons,	9
By machinery,	1
By blast,	1
Total,	16
Number of widows,	7
Number of orphans,	17
Number of mines in the district,	82
Number of mines not operated during the year,	13
Number of mines not reported,	1
Number of mines that reported coal production,	68
Total production	4,722,871
Total production of coke in net tons,	151,134
Total shipment of coal in net tons,	4,085,013
Average number of days worked,	167
Total number of persons employed,	8,010
Number of tons coal mined per fatal accident,	429,352
Number of tons coal mined per non-fatal accident,	295,179
Number of employes per fatal accident,	728
Number of employes per non-fatal accident,	500
Number of steam boilers,	82
Number of steam engines,	69
Number of horses and mules,	686
Number of coke ovens,	692

Accidents.

I regret to say concerning the fatal accidents that occurred in the district during the year, that an unusual degree of carelessness was shown by a number of the victims. Six out of the total of eleven would not have happened had ordinary care been exercised. A perusal of Table 5 explains fully the cause of each accident. Three of the men who were killed, after firing shots in the coal which did not bring it down, lay directly underneath it again to undermine without in any way securing it from falling. In this way a father and son were killed together. A fourth man was still more reckless than the above. In his case the coal had been spragged by his partner while he ate his dinner. On his return to work he cursed his partner for putting in the sprag, which he knocked out; then lay down underneath the loosened coal to mine deeper, when the mass fell upon him, causing death almost instantly.

There are but two courses to be taken looking toward the pre-

vention of such accidents. One is to exercise care in the employment of men, and have none but practical miners. The other is to enforce strict discipline, and compel compliance with the rules laid down in the mine law. Five of the fatal accidents referred to were caused by the violation of one of these rules—that requiring the spragging of coal; and one other by not putting in a prop when it was well known that the roof was bad.

I have only to hope that the mine formen will be very careful in the employment of men and vigilant over those who are negligent of their own safety, as I find that from 25 to 40 per cent. of the accidents that come under my notice occur, not from lack of provision for the men's safety, but from their incautiousness in not protecting themselves with the means at hand.

General Condition of Mines in the District, with Suggestions for Improvement.

In looking over the field and comparing the condition of mines now with that of a few years ago, it is a pleasure to note that great improvement has been made, especially in the direction of ventilation, drainage and haulage. But there is still plenty of room for improvement in the line of provision for the health and safety of employes before the dangers of mining shall be brought down to the minimum. We are living in a progressive age, and should see that our business keeps pace with other industries, by the inauguration of improved systems which will insure greater protection to life, health and property. Ventilation, drainage and haulage are important features of a mining system, but they do not constitute by any means all of it, and, while too much attention has not been paid to them in the Sixth District, other things have perhaps been neglected on their account. Chief among them is the adoption of careful plans by which the greatest amount of coal can be mined per acre, in marketable condition, while at the same time the best protection possible is afforded to life and property. To accomplish this, there must be a better system of pillars, or blocks of coal to sustain the roof, than now obtains. The subject of better support for the overhanging strata has not in our estimation been given the consideration it should have. The great problem apparently being: How wide can we drive rooms, or breasts, and how small a pillar will suffice. We hear of or see almost daily the bad results of small pillars, either in a disastrous creep of the mine, or a crushing of the pillar coal to such an extent that when it is shipped, mixed with other coal, it is detrimental to the whole, and is the cause very often of condemning the entire product of the mine.

I believe the question of better roof support demands the

immdiate attention of all thinking mine workers. Let there be less striving for the minimum size of pillars, and where there is a question, give that of safety the benefit of the doubt by leaving them larger. The coal can be taken out economically on the return work. Instead of trying, as nearly everybody now is, how near he can come to the danger line and escape unscathed, let us see how far away from it we can keep. A change in this direction is more needed just now, in my mind, than perhaps, anything else in the mining world. If the principal object were to ascertain how small a pace can we advance on in our mines, and how large a breast of coal can we work on the return "creeps" would be unknown, and we would hear no more complaints of crushed coal. I predict that proper mining in the future will be conducted on the plan I have outlined.

Some objection no doubt will be offered, but that is always to be expected when any changes are made or suggested, particularly in mining; and with very good reason, for it is very important to be satisfied that the proposed change will be for the good of the mine and add to its general safety. One of the objections quite sure to be put forward is this, that it will require so much more time to open up a mine in this manner. This I admit, and would like to answer it in advance by calling attention to the fact that it is in the opening up of a mine that the foundation for future trouble is usually laid, by being in too great a hurry to get out a large quantity of coal, and neglecting to leave proper roof supports in the very place where they are most needed. Then in the future if it is desired to make improvements by the opening of a second road or the wideningof the one already opened to increase facilities for haulage, it must be accomplished at still further risk to the safety of the working.

The changes advocated are coming gradually, as in quite a number of mines the size of pillar is being increased. But I wish to see a good thing, as we confidently believe this to be, universally adopted, especially when it means greater security to life and property and the production of coarser coal.

DESCRIPTION OF MINES AND MINE IMPROVEMENTS IN THE SIXTH BITUMINOUS DISTRICT.

Cambria County Mines.

Johnstown.—There are three mines located at Johnstown—the "Rolling Mill," the "Gautier" and "A. J. Haws'" shaft. The Gautier has been closed for several months. When operated it is ventilated by fans, as are the other two. These collieries are always found in excellent condition as regards ventilation, drainage and

general safety. The "Conemaugh" Mine is about one and one-half miles east of Johnstown. It is ventilated by a furnace, which method of ventilation gives perfect satisfaction in mines of this size, employing 40 or 50 men. Where the furnace is well attended, and large and roomy headings and airways are driven, as is done here, I find very good results from this method of ventilation in mines that employ more than double the number of men above mentioned, although it can hardly be regarded as an economical method in shallow mines.

Ingleside Mine.—Is located about three miles south of Johnstown, on the S. & C. Branch of the B. & O. Railroad, and supplies the Johnson Works, of Moxham, with coal. Its sanitary condition is good. The mine has not been operated very regularly during the past year and a-half, during which time it has been ventilated by a furnace, although a fan has been installed. If properly attended, however, the furnace will supply all the air required for the number of men now employed, about 20.

South Fork and Ehrenfeld Mines.—There are six workings in this territory, namely: Stineman, Argyle, Aurora, Euclid and Sumner No. 2, at South Fork, and Webster No. 3, at Ehrenfeld. The first-named and the last-named are among the largest plants in the district, and have a capacity of from 1,200 to 1,500 tons each per day. The Stineman is ventilated by an 18-foot fan, and the Webster by two fans, one 18 and the other 12 feet in diameter. The provisions for air in both mines are good, but the system of working the dip in the "Stineman" makes it a little difficult to force the air to the face of each room. The headings are driven here on the strike of the coal, or water level, and the rooms turned direct on the raise of the seam, which runs them up a very heavy grade. Two or three check doors on each heading, however, help to force the air to the top of the working places. The system most generally adopted in the district, is to drive the headings up the grade, or at an angle which will permit the handling of the loaded cars coming down. This runs the rooms level, or nearly so. The system adopted at the Stineman mine, which prevails, as well, at several others along the Allegheny Mountains where the grades are so heavy, is a very good one. But the rooms should not be driven too long in those heavy grades, as it is very difficult to keep the air currents up to the face of them. The Aurora, Argyle and Euclid Mines are well ventilated and drained, and in excellent condition in every respect. Sumner No. 2 was somewhat defective in ventilation when examined last, but this would soon be remedied, since the cause was only temporary, namely, the making of a change in the haulage.

Dunlo.—There are three operations at this place—one drift and two shafts, the former, however, had been closed for several months. The "Henrietta Shaft" is ventilated by a fan. There are two sys-

tems of rope haulage. One conveys the coal from the part of the mine above water level, and, as the balance of the work is to the dip of the seam, it requires machinery to haul the coal mined here up to the shaft, the grades being very heavy in this locality, as it is nearing the Anticlinal. The ventilation, drainage and general condition of the mine are good. The "Yellow Run Shaft" is operated by the Berwind White Coal Company. Part of this mine is also worked on the coal above water level and the balance to the dip of the seam and is drawn up to the shaft by rope. Most of this working, however, is above water level. An incline plane is used to drop the coal from a second level down to the first, as the grades are too heavy for profitable haulage by mules. All the live stock used in the shaft is now stabled inside the mine. Sanitation and general conditions are good, although the workmen have been very unfortunate in having several serious accidents among them during the year

Portage Branch.—There are nine operations on this branch, only four of which have done much during the year, the "Caldwell," "Pilgrim," "Ebervale," "Anchor" and "Sumner No. 1," having been operated but a very short time. The "Excelsior," "Ivy Ridge" and "Puritan Nos. 1 and 2," have been operated pretty steadily, especially the two latter. The ventilation and drainage of No. 1 is in a fair condition, but could be improved if larger areas were made for the air to travel through. The system of distributing the air is good, but the trouble is that the main airway is too small to carry the necessary volume, thus choking the fan and causing it to throw off a third less air than it should at its usual speed. The "Excelsior" is not a very large plant, but is well ventilated and drained. The "Ivy Ridge" and "Puritan No. 2" have been very much improved in ventilation during the past few months by a connection which was made between them, which shortened the distance for the air to travel by about one-half, and furnished larger areas, thereby increasing the quantity of air to nearly double. The ventilation can be still further improved by a better system of distribution and the carrying of the air in larger quantities to the face of the workings.

"Bens Creek."—At this point there are five operations, namely: "Dysert," "Mentzer," "Columbia No. 4," "Sonman No. 2" and Sonman Shaft." The Dysert is the oldest mine on the Allegheny Mountain now in operation, and is connected with the Mentzer, which is really only a second opening for it. Having been opened at a time when none but single headings were driven, and those of only sufficient width for a car with its load of coal to pass through, the main hauling road and main airway of this mine is nearly filled when a trip is coming out, thus checking the air current, and causing the venilation to be defective. The fan is adequate for the work if the air-

ways were kept clear; or, in this case, a second airway would remedy the trouble. This defect does not occur in any of the new mines, which have been opened and operated on the improved systems, as all headings are driven wide, thus leaving room for the air to travel alongside the trip. The Mentzer Mine, as stated, has a connection with the Dysert, and is supplied with air, partly from the latter's fan. It has no regular means of its own for ventilation, except a small fireplace at the bottom of a shaft, which is dignified by the name of a furnace. The system of mining here is good, all headings being driven double. A fan, or good furnace, however, would raise the ventilation from medium to first class. "Columbia No. 4 is ventilated by a furnace, with a regular attendant, and up to the present it has produced sufficient air. But the work is far advanced now, and the ventilation is getting weak at the extreme face, though no one is suffering yet. I believe, however, the limit has been reached for the present furnace, and have no doubt that the necessary changes will be made to keep the ventilation up to the regular standard. For "No. 1 Sonman" a 12-foot fan does the work of ventilating, and at my last examination I found the air fairly well conducted around the face of the workings. The drainage and general conditions for safety of the mine are good. "Sonman Shaft" is a well-equipped plant, although its outward appearance would not indicate this, as it is not very attractive. Mining machines have been introduced which are driven by compressed air. The pumping is also done by the same method. Ventilation is produced by an 18-foot fan, and the air is distributed in five separate splits, one to each level. Drainage and general safety are well looked after.

Lilly Branch.—There are four operations on this spur—"Bear Rock," "Sonman No. 2," "Lilly Slope" and "Standard." The two latter are well ventilated and drained. The Sonman No. 2 is in somewhat better condition than formerly, but there is plenty of room yet for improvement, especially in the ventilation. The principal trouble lies in their not being careful in the distribution of the air, to carry it to the face of the working. The "Bear Rock" is a small operation, and is nearly worked out; another opening is now being made beside it to reach the coal to the dip of the old mine.

Cresson Shaft is located on the main line of the Pennsylvania Railroad, at or near Cresson. The colliery has not worked very briskly during 1896. Ventilation and drainage fair.

Blacklick Branch.—There are four mines located on this branch, which may be briefly described as follows: In "Vintondale" Nos. 1 and 2, at Vintondale, the mining, hauling and ventilating are all done by electricity. The condition of the mines in respect to these two latter features and general safety is good. The Big Run Mine

is located at Twin Rocks. The mining is done by machines, driven by compressed air, and ventilation is produced by a 7-foot Stine fan. Sanitary condition very good. "Nant-y-glo" Mine is located at the place after which it is named. It is ventilated by a furnace, and when examined last was found in very good condition both in this respect and as to drainage. The mine is new, having been opened during the year.

The mines located on the Cresson & Coalport Railroad are the "Amsbury" and the "Deans" Nos. 4, 5 and 8, at Frugality, the latter being operated by the Cresson Coal & Coke Company. The Amsbury Mine is at Amsbury, and is operated by Taylor Brothers. The ventilation and drainage of this mine need improving. Nos. 4 and 5 of the "Deans," at Frugality, are nearly worked out. No. 8 is a new plant and is being opened up on a very good plan, with evident intentions of making it an extensive operation.

Patton Mines.—There are six operations at and near this point, all of which ship their product over the Beech Creek Railroad. "New Pardee" is operated by Magee & Lingle. This is the largest plant of the six, the capacity being about 1,500 tons per day. Ventilation is produced by a 12-foot fan, delivering from 35,000 to 40,000 cubic feet of air per minute into the mine, which is well distributed in three separate currents through the workings. The "Moshannon" is operated by E. P. McCormick and when last examined it was found in excellent condition. "Patton Mine" is operated by J. J. McGonigal, and it also, when last visited, was in good condition. The Patton Coal Company operates the "Ashcroft," "Columbia" and "Flannigan Run" mines. The first named has been closed for several months, but the other two have been operated fairly well during the year, and a large number of men are employed in each. Ventilation is produced by furnace in both mines. Where a large number of men are employed in a mine that is somewhat advanced in the workings, and several splits of air are required to comply with the law, a furnace cannot do the work, even when built large, except there be some natural advantages, such as numerous openings to shorten the distance the air current has to travel. Neither of these mines has this advantage, consequently they should have better facilities to produce air than are afforded by a furnace.

Hastings Mine.—Five collieries are found at Hastings, namely: "Oak Ridge," "Benton No. 2," "Hastings" and "Sterling" Nos. 10 and 8. The latter is a very extensive operation, one of the largest, in fact, in the district, employing about 300 men and boys inside the mine. The drainage and ventilation are well looked after. The other mines here, "Benton No. 1," "Hastings," "Sterling" No. 10, and "Oak Ridge," are all kept in safe sanitary condition. Furnaces are

used at each for ventilating and they receive the attention necessary to make them adequate to the work they are intended for. I am very sorry that I cannot say the same of all the mines using this method of ventilation. It can be said of the furnaces at the mines, as also of the ordinary doors, they are pretty good arrangements if properly attended to, and very bad if neglected. But all should have fans thus insuring regular currents of air, and also there should be automatic doors to conduct it through the proper channesl. No plausible excuses can be given for not having them as the fan is 40 per cent. cheaper than the furnace, and the automatic door is cheaper than the old arrangement with its boy attendant.

Barnesboro.—There are nine operations within a radius of one mile from the centre of this town: "Lacanshire" Nos. 3, 4 and 6, "Sterling" No. 11, "Allport" No. 1, "Juniata," "Cymbria,' "Delta" and "Alpha." The Juniata and Alpha are small, the first named having been operated very little during the year, and the latter less than half time. The three Lancashire Mines and the Sterling No. 11 are in excellent condition from the standpoints of sanitation and general safety. Allport No. 1, Cymbria and Delta are all fairly well ventilated. The two latter, however, are worked rather extensively, and are nearing the limit where a furnace to supply them with air will be required.

Spangler.—There are four mines operated at this place—"Benton" No. 1, "Spangler," "Susquehanna" and "Sterling" No. 13. The latter is being opened up with a rush, and men are being put in very fast, as a result of which there is difficulty in keeping the ventilation up to a point where it will properly supply air at the face of the workings. Beyond this, the furnace shaft is located right at the bottom of a very high bluff, and those in charge complain of having considerable trouble by the furnace fire blowing back on them when the wind is in a certain direction. While the location of the shaft is not very favorable, it seems that a clean, bright fire, producing good heat, kept regularly in the furnace, ought to prevent any serious trouble from want of a sufficient current of air. The baffling of the furnace ventilation by the wind will probably be but for a few moments at a time. The "Benton" No. 2 is well ventilated and drained. The "Spangler" mine is also kept in a very good condition in both these respects. This mine experienced some difficulty with water up to a recent date, as the operators had driven down below the water level, and had to syphon the water out for a considerable distance; but they drove a new drift from a lower point, and connected it with the mine, which gave natural drainage.

"Susquehanna" is a new mine and was operated very little during the year.

Elmora Mine is located between Spangler and Carrollton Roads. The men are being taken out of this working as fast as room can be provided for them in another opening which is being made on the D, or Moshannon seam, the old mine being on the B, or Miller seam. The ventilation and drainage of the first mine were well looked after, although the furnace had not sufficient capacity after the work became extensive. But as about half the men have been drawn out, there is no trouble in supplying the remainer with sufficient air.

Somerset County Mines.

The "Listie" is the largest of these, and is located about two miles north of Somerset town, on the Cambria & Somerset Branch of the B. & O. Railroad. Extensive improvements have been made at this plant during the year. A new opening was driven and continued to the face of the mine, which gives a double hauling road, one for empty wagons and another for loaded ones. The operators have also put in a "Phillips patent automatic cross-over dump" for quick dumping, which gives great satisfaction. The sanitary condition of the mine is very good, as both ventilation and drainage are well looked after.

Stonycreek.—This mine is located at Hooversville. The ventilation is good but some difficulty had been experienced for some time from water until a second opening was made from a low point on the property, which has enabled them to drain the mine successfully. It is now in good condition, both as regards drainage and ventilation.

Bethel Mine.—Not much work has been done at this plant during the year, and very little coal has been shipped, the most of the product going to supply the engines on the Somerset & Cambria Branch of the B. & O. Railroad. The ventilation and drainage of the mine, as well as its general safety, are well looked after.

Table No. 1.—Showing location, &c., of collieries in the Sixth Bituminous Mine District.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent	Postoffice Address.
Allport No. 1,	Allport Coal Co.,	Cambria,	Jas. H. Allport,	Hastings.
Alpha,	Knight & Co.,	Cambria,	H. C. Williams,	Barnesboro.
Argyle,	Argyle Coal Co.,	Cambria,	J. P. Wilson,	South Fork.
Ashcroft,	Patton Coal Co.,	Cambria,	John Ashcroft,	Patton.
Aurora,	Aurora Coal Co.,	Cambria,	D. W. Luke,	South Fork.
Bear Rock Coal Co.,	Bear Rock Coal Co.,	Cambria,	John Leahey,	Lilly.
Benton No. 1,	Benton Coal Co.,	Cambria,	Jas. H. Allport,	Hastings.
Benton No. 2,	Benton Coal Co.,	Cambria,	Jas. H. Allport,	Hastings.
Bens Creek Plane,	E. W. Mentzer,	Cambria,	John A. Lean,	Lilly.
Bethel,	Bethel Coal Co.,	Somerset,	Joseph Virgin,	Hollsopple.
Big Bend,	Chas. McFadden, Jr.,	Cambria,	W. S. Hayden,	Expedit.
Columbia,	Patton Coal Co.,	Cambria,	John Ashcroft,	Patton.
Columbia No. 4,	Mitchell Coal and Coke Co.,	Cambria,	Wm. Smith,	Gallitzin.
Conemaugh Coal Co.,	Conemaugh Coal Co.,	Cambria,	J. P. Wilson,	South Fork.
Cresson shaft,	Cresson Coal and Coke Co.,	Cambria,	John K. Powell,	Cresson.
Cymbria,	Cymbria Coal Co.,	Cambria,	E. R. Musser,	Barnesboro.
Dean No. 4,	Cresson and Clearfield Coal and Coke Co.,	Cambria,	P. H. Walls,	Altoona.
Dean No. 5,	Cresson and Clearfield Coal and Coke Co.,	Cambria,	P. H. Walls,	Altoona.
Delta,	Lawrence L. Brown,	Cambria,	Lawrence L. Brown,	Barnesboro.
Dysart,	D. Laughman and Co.,	Cambria,	Thos. Leahey,	Lilly.
Dunlo,	Dunlo Coal Co.,	Cambria,	J. P. Wilson,	South Fork.
Euclid,	Euclid Coal and Coke Co.,	Cambria,	J. H. Dietrick,	South Fork.
Excelsior,	George Pearce & Sons,	Cambria,	George Pearce,	Puritan.
Elmora,	Elmora Coal Co.,	Cambria,	John B. Reed,	Carrolltown.
Flanagan Run,	Patton Coal Co.,	Cambria,	Jno. Ashcroft,	Patton.
Gallitzin shaft,	Taylor-McCoy Coal and Coke Co.,	Cambria,	T. E. Dipner,	Hollidaysburg
Gallitzin slope,	Mitchell Coal and Coke Co.,	Cambria,	Wm. M. Smith,	Gallitzin.
Gautier No. 3,	Cambria Iron Co.,	Cambria,	W. H. Morris,	Johnstown.
Haws shaft,	A. J. Haws & Son,	Cambria,	Hy Haws,	Johnstown.
Hastings,	Shiffer & Smith,	Cambria,	W. C. Shiffer,	Hastings.
Henrietta shaft,	Henrietta Coal Co.,	Cambria,	John McNulty,	Dunlo.
Ivy Ridge,	Lovell Coal Mining Co.,	Cambria,	P. F. Campbell,	Puritan.
Ingleside,	Ingleside Coal Co.,	Cambria,	T. C. du Port,	Johnstown.
Juniata,	David Atherton,	Cambria,	Thomas Scollon,	Barnesboro.
Krebs,	Listie Mining and Manufacturing Co.,	Somerset,	George J. Krebs,	Somerset.
Lancashire No. 3,	Anneston Coal Co.,	Cambria,	Thomas Barnes,	Philipsburg.
Lancashire No. 4,	Anneston Coal Co.,	Cambria,	Thomas Barnes,	Philipsburg.
Lancashire No. 6,	Barnes & Tucker,	Cambria,	John Barnes,	Barnesboro.
Lilly slope,	Lilly Coal Co.,	Cambria,	C. A. Hughes,	Altoona.
Moshannon,	E. P. McCormick & Co.,	Cambria,	E. P. McCormick,	Patton.
Naut Y Glo,	Naut Y Glo Coal Company,	Cambria,	J. W. Dunwiddie,	Glen Glad.
Oak Ridge,	Campbell & Patterson,	Cambria,	James Campbell,	Hastings.
Pardee No. 3,	Magee & Lingle,	Cambria,	W. C. Lingle,	Patton.
Pilgrim,	Lovell Coal Mining Co.,	Cambria	P. F. Campbell,	Puritan.

Table 1.—Continued.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Postoffice Address.
Puritan No. 1,	Puritan Coal Mining Co.,	Cambria,	John Langdon,	Huntingdon.
Puritan No. 2,	Puritan Coal Mining Co.,	Cambria,	John Langdon,	Huntingdon.
Patton,	J. J. McGonigal,	Cambria,	J. J. McGonigal,	Carrolltown.
Rolling Mill,	Cambria Iron Co.,	Cambria,	W. H. Morris,	Johnstown.
Sumner No. 1,	South Fork Coal Mining Co.,	Cambria,	John B. Reed,	Carrolltown.
Sonman No. 1,	W. H. Piper & Co.,	Cambria,	Frank	Myra.
Sonman No. 2,	W. H. Piper & Co.,	Cambria,	Patrick Leahey,	Lilly.
Spangler,	Summit Coal and Coke Co.,	Cambria,	C. F. Fraser,	Hastings.
Stineman,	Stineman Coal and Coke Co.,	Cambria,	W. I. Stineman,	South Fork.
Standard No. 2,	Standard Coal Co.,	Cambria,	R. J. Hughes,	Altoona.
Stony Creek,	Stony Creek Coal Co.,	Somerset,	Milton Beeghly,	Myersdale.
Susquehanna,	Dermer Bros.,	Cambria,	Richard Bowen,	Barnesboro.
Sonman shaft,	Sonman Coal Mining Co.,	Cambria,	Joseph Patterson	Myra.
South Fork No. 1,	South Fork Coal Mining Co.,	Cambria,	John B. Reed,	Carrolltown.
Sterling No. 8,	Duncan & Spangler,	Cambria,	J. L. Spangler,	Bellefonte.
Sterling No. 10,	Duncan & Spangler,	Cambria,	J. L. Spangler,	Bellefonte.
Sterling No. 11,	Duncan & Spangler,	Cambria,	J. L. Spangler,	Bellefonte.
Sterling No. 13,	Duncan & Spangler,	Cambria,	J. L. Spangler,	Bellefonte.
Taylor Bros.,	Taylor Bros.,	Cambria,	Val Eichenlaut,	Amsbry.
Vinton No. 1,	Vinton Colliery Co.,	Cambria,	Clarence R. Claghorn,	Vintondale.
Vinton No. 2,	Madeira Hill Coal Mining Co.,	Cambria,	Clarence R. Claghorn,	Vintondale.
Webster No. 3,	John C. Scott & Sons,	Cambria,	Philip Hartman,	Ehrenfeld.
Yellow Run,	Berwind White Coal Mining Co.,	Cambria,	A. S. R. Richards,	Osceola Mills.

TABLE No. 2.—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder used, &c., in the Sixth Bituminous Mining District, for the year ending December 31, 1896.

Names of Collieries.	Location.	Total production in tons of coal.	Total production in tons of coke.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Number coke ovens.
Allport No. 1,	Cambria,	58,145	.....	58,145	195	100	.....	.....	600	.....	4	.....	.....
Alpha,	Cambria,	9,509	.....	9,509	.....	26	1	.....	75	.....	1	.....	.....
Argyle Coal Co.,	Cambria,	101,632	.....	100,132	113	130	.....	1	267	1	14	1	.....
Ashcroft,	Cambria,	16,343	.....	16,343	93	120	.....	.....	100	.....	6	.....	.....
Aurora,	Cambria,	21,377	.....	21,137	150	58	.....	.....	100	.....	6	.....	.....
Bear Rock Coal Co.,	Cambria,	30,000	.....	30,000	200	57	.....	.....	100	.....	6	.....	.....
Benton No. 1,	Cambria,	43,095	.....	43,095	173	65	.....	.....	450	.....	6	.....	.....
Benton No. 2	Cambria,	24,395	.....	24,395	129	40	.....	.....	240	.....	4	.....	.....
Bens Creek plane,	Cambria,	68,612	.....	68,412	215	111	.....	.....	375	.....	13	.....	.....
Bethel,	Somerset,	8,622	.....	8,622	310	15	.....	.....	34	.....	1	.....	.....
Big Bend,	Cambria,	63,422	.....	63,000	198	101	.....	.....	400	2	7	2	.....
Columbia,	Cambria,	104,139	.....	104,139	247	152	.....	.....	200	.....	7	.....	.....
Columbia No. 4,	Cambria,	31,601	.....	31,601	150	75	.....	.....	126	.....	3	.....	.....
Conemaugh Coal Co.,	Cambria,	51,234	.....	50,139	313	165	.....	.....	488	1	13	1	.....
Cresson shaft,	Cambria,	37,965	.....	36,455	139	75	.....	.....	182	3	4	2	.....
Cymbria,	Cambria,	53,335	.....	53,081	161	85	.....	2	316	.....	8	.....	.....
Dean No. 4,	Cambria,	74,824	39,171	9,302	214	152	1	.....	375	3	15	2	88
Dean No. 5,	Cambria,	75,447	.....	75,447	179	116	.....	.....	450	.....	10	.....	.....
Delta,	Cambria,	85,859	.....	85,859	147	189	1	1	319	.....	9	.....	.....
Dysart Colliery,	Cambria,	67,250	.....	65,278	153	125	.....	.....	375	1	14	2	.....
Dunlo Coal Co.,	Cambria,	3,999	.....	3,999	35	35	.....	.....	35	.....	3	.....	.....
Elmora,	Cambria,	97,411	.....	97,411	265	155	.....	.....	570	.....	8	.....	.....
Euclid,	Cambria,	23,484	.....	23,284	160	54	.....	.....	280	1	6	1	.....
Excelsior,	Cambria,	10,060	.....	10,037	85	39	.....	.....	35	1	1	1	.....
Flanigan Run,	Cambria	129,635	.....	129,635	245	175	.....	.....	224	.....	6	.....	.....
Gallitzin shaft,	Cambria,	62,300	22,353	21,980	164	297	.....	.....	275	6	22	2	240

Table No. 2.—Continued.

Names of Collieries.	Location.	Total production in tons of coal.	Total production in tons of coke.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Number coke ovens.
Gallitzin slope,	Cambria,	192,327	63,105	88,719	192	378	.....	3	829	5	25	6	172
Gautier No. 3,	Cambria,	13,909	.....	.....	125	40	.....	.....	78	.....	1	1	.....
Haws shaft,	Cambria,	23,697	.....	.....	236	47	.....	.....	100	.....	4	1	.....
Hastings,	Cambria,	93,088	23,936	54,791	189	169	.....	.....	521	.....	12	1	152
Henriette shaft,	Cambria,	117,132	.....	114,332	297	172	.....	1	200	4	17	2	.....
Ivy Ridge,	Cambria,	20,142	.....	20,142	74	70	.....	.....	.....	.....	3	.....	.....
Ingleside Coal Co.,	Cambria,	21,367	.....	21,284	182	30	.....	.....	128	.....	4	.....	.....
Juniata,	Cambria,	6,832	.....	6,782	63	40	.....	.....	.....	.....	3	.....	.....
Krebs,	Somerset,	77,851	.....	76,951	206	95	.....	.....	356	.....	8	.....	.....
Lancashire No. 3,	Cambria,	24,611	.....	24,611	118	67	.....	.....	126	.....	4	.....	.....
Lancashire No. 4,	Cambria,	52,007	.....	52,007	196	38	.....	.....	276	.....	5	.....	.....
Lancashire No. 6,	Cambria,	75,000	.....	75,000	200	126	.....	.....	260	.....	13	.....	.....
Lilly Slope,	Cambria,	21,926	.....	21,660	88	57	.....	.....	20	1	1	2	.....
Moshannon,	Cambria,	22,500	.....	22,500	76	76	.....	2	113	.....	5	.....	.....
Naut Y Glo,	Cambria,	9,499	.....	9,215	75	51	.....	.....	97	.....	3	.....	.....
Oak Ride,	Cambria,	16,342	.....	15,991	63	53	.....	.....	69	.....	4	.....	.....
Pardee No. 3,	Cambria,	198,074	.....	198,074	210	291	.....	.....	736	2	25	2	.....
Pilgrim,	Cambria,	39,130	.....	39,130	122	103	.....	.....	.....	2	7	1	.....
Puritan No. 1,	Cambria,	126,602	.....	126,602	215	232	.....	.....	544	3	20	1	.....
Puritan No. 2,	Cambria,	50,656	.....	50,656	258	71	.....	.....	200	.....	5	.....	.....
Patton,	Cambria,	34,000	.....	34,000	130	47	.....	.....	90	.....	4	.....	.....
Rolling Mill,	Cambria,	316,361	.....	.....	249	377	1	.....	1,508	8	44	5	.....
Sumner No. 1,	Cambria,	25,899	.....	25,299	.....	.....	.....	.....	.....	1	5	1	.....
Sonman No. 1,	Cambria,	136,207	.....	136,207	240	246	1	.....	404	2	18	1	.....
Sonman No. 2,	Cambria,	101,845	.....	101,845	264	211	.....	.....	264	1	20	1	20
Spangler,	Cambria,	18,481	.....	18,481	217	32	.....	.....	103	.....	3	.....	.....
Stineman,	Cambria,	232,585	.....	230,023	269	298	1	1	1,600	2	43	2	.....
Standard No. 2,	Cambria,	21,990	.....	21,990	180	40	.....	1	10	.....	3	.....	.....
Stony Creek,	Somerset,	10,615	.....	10,615	140	38	.....	.....	.....	.....	3	.....	.....
Susquehanna,	Cambria,	8,675	.....	8,675	70	33	.....	.....	.....	.....	1	.....	.....

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Table No. 3.—Showing the number of each class of employes of each colliery in the Sixth Bituminous Mine District, during the year 1896.

Names of Collieries.	Location.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							
		Inside foreman or mine boss.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Doorboys and helpers.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All company men.	Superintendents, bookkeepers and clerks.	Total outside.	Grand totals—inside and outside.
Allport No. 1,	Cambria,	1	90	3	1	2	.....	97	.....	1	.....	.....	1	1	3	100
Alpha,	Cambria,	1	23	.....	.....	1	.....	25	.....	1	.....	.....	.....	.....	1	26
Argyle Coal Co.,	Cambria,	1	90	17	2	7	.....	117	1	2	2	.....	6	2	13	130
Ashcroft,	Cambria,	1	90	15	4	4	2	116	.....	1	.....	.....	3	.....	4	120
Aurora,	Cambria,	1	29	1	1	3	.....	35	1	.....	.....	.....	1	1	3	38
Bear Rock Coal Co.,	Cambria,	1	40	.....	5	4	1	51	1	1	.....	.....	3	1	6	57
Benton No. 1,	Cambria,	1	58	.....	1	2	1	63	.....	1	.....	.....	.....	1	2	65
Benton No. 2,	Cambria,	1	32	2	1	1	.....	37	.....	1	.....	.....	1	1	3	40
Bens Creek Plane,	Cambria,	1	75	15	2	11	2	106	.....	1	.....	.....	3	1	5	111
Bethel,	Somerset,	1	11	.....	.....	1	.....	13	.....	.....	.....	.....	1	1	2	15
Big Bend,	Cambria,	1	75	1	2	6	3	88	.....	3	3	.....	4	3	13	101
Columbia,	Cambria,	1	120	15	1	8	2	147	.....	1	.....	.....	4	.....	5	152
Columbia No. 4,	Cambria,	1	60	4	1	5	1	72	.....	1	.....	.....	2	.....	3	75
Conemaugh Coal Co.,	Cambria,	1	51	4	1	5	.....	62	.....	1	1	.....	.....	1	3	65
Cresson shaft,	Cambria,	.....	60	.....	3	4	.....	67	.....	1	3	.....	2	2	8	75
Cymbria,	Cambria,	1	70	5	1	2	2	81	.....	1	.....	.....	2	1	4	85
Dean No. 4,	Cambria,	1	82	13	1	8	5	110	1	2	1	27	8	3	42	152
Dean No. 5,	Cambria,	1	80	15	1	9	3	109	.....	1	.....	.....	6	.....	7	116
Delta,	Cambria,	1	162	7	2	6	4	182	1	1	.....	.....	4	1	7	189
Dysart,	Cambria,	1	90	4	4	12	3	114	1	2	1	.....	4	3	11	125
Dunlo Coal Co.,	Cambria,	1	50	.....	.....	2	.....	33	.....	.....	.....	.....	1	1	2	35
Elmora,	Cambria,	1	110	30	3	6	2	152	.....	1	.....	.....	.....	2	3	155
Euclid,	Cambria,	.....	41	.....	1	5	1	48	1	1	1	.....	2	1	6	54
Excelsior,	Cambria,	1	30	.....	1	4	.....	36	.....	.....	1	.....	1	1	3	39

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TABLE No. 4.--Giving the kind of opening and methods of haulage, ventilation and mining.

Names of Collieries.	Location.	Drift, slope or shaft.	Kind of Haulage.	How Coal is Mined.	How Ventilated.
Allport No. 1,	Barnesboro, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Alpha,	Barnesboro, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Argyle,	South Fork, Cambria Co.,	Drift,	Rope haulage,	Pick,	Furnace.
Ashcroft,	Patton, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Aurora,	South Fork, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Bear Rock,	Lilly, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Benton No. 1,	Hastings, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Benton No. 2,	Spangler, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Bens Creek Plane,	Bens Creek, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Bethel,	Hollsopple, Somerset Co.,	Drift,	Mules,	Pick,	Furnace.
Big Run,	Twin Rock, Cambria Co.,	Drift,	Mules,	Machines,	Fan.
Columbia,	Patton, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Columbia No. 4,	Bens Creek, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Conemaugh,	Conemaugh, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Cresson shaft,	Cresson, Cambria Co.,	Shaft,	Mules,	Pick,	Fan.
Cymbria,	Barnesboro, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Dean No. 4,	Frugality, Cambria Co.,	Drift,	Mules,	Pick,	Fan.
Dean No. 5,	Frugality, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Delta,	Barnesboro, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Dysert,	Bens Creek, Cambria Co.,	Drift,	Rope and mules,	Pick,	Fan.
Dunlo,	Dunlo, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Euclid,	South Fork, Cambria Co.,	Drift,	Mules,	Pick,	Fan.
Excelsior,	Puritan, Cambria Co.,	Drift,	Mules,	Pick,	Fan.
Flanigan Run,	Patton, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Gautier,	Johnstown, Cambria Co.,	Drift,	Mules,	Pick,	Fan.
Gallitzen shaft,	Gallitzen, Cambria Co.,	Shaft,	Mules,	Pick,	Fan.
Gallitzen slope,	Gallitzen, Cambria Co.,	Slope,	Rope haulage,	Pick,	Fan.
Haws shaft,	Johnstown, Cambria Co.,	Shaft,	Mules,	Pick,	Fan.
Hastings,	Hastings, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Henrietta,	Dunlo, Cambria Co.,	Shaft,	Rope haulage,	Pick,	Fan.
Ivy Ridge,	Puritan, Cambria Co.,	Drift,	Electric motor,	Pick,	Fan.
Ingleside,	Ingleside, Cambria Co.,	Drift,	Mules,	Pick,	Fan.
Juniata,	Barnesboro, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Krebbs,	Listie, Somerset Co.,	Drift,	Mules,	Pick,	Furnace.
Lancashire No. 3,	Barnesboro, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Lancashire No. 4,	Barnesboro, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Lancashire No. 6,	Barnesboro, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Lilly slope,	Lilly, Cambria Co.,	Slope,	Mules,	Pick,	Fan.
Moshannon,	Patton, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Oak Ridge,	Hastings, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Pardee No. 3,	Patton, Cambria Co.,	Drift,	Rope haulage,	Pick,	Fan.
Pilgrim,	Puritan, Cambria Co.,	Slope,	Electric motor,	Pick,	Fan.

Puritan No. 1,	Puritan, Cambria Co.,	Shaft,	Mules,	Pick,	Fan.
Puritan No. 2,	Puritan, Cambria Co.,	Drift,	Mules,	Pick	Fan.
Patton,	Carroltown, Cambria Co.,	Drift,	Mules,	Pick,	Furnace
Rolling Mill,	Johnstown, Cambria Co.,	Drift,	Rope haulage,	Pick,	Fan.
Sonman No. 1,	Bens Creek, Cambria Co.,	Drift,	Rope haulage,	Pick,	Fan.
Sonman No. 2,	Lilly, Cambria Co.,	Drift,	Mules,	Pick	Fan.
Spangler,	Spangler, Cambria Co.,	Drift,	Mules,	Pick,	Furnace
Stineman,	South Fork, Cambria Co.,	Slope and drift,	Rope and mules,	Pick,	Fan.
Standard No. 2,	Lilly, Cambria Co.,	Drift,	Mules,	Pick,	Fan.
Stony Creek,	Hooversville, Somerset Co.,	Drift,	Mules,	Pick,	Furnace.
Susquehanna,	Spangler, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Sonman shaft,	Bens Creek, Cambria Co.,	Shaft,	Rope haulage,	Machine in part,	Fan.
South Fork,	South Fork, Cambria Co.,	Slope,	Rope haulage,	Pick,	Fan.
Sterling No. 8,	Hastings, Cambria Co.,	Slope,	Rope haulage,	Machine in part,	Fan.
Sterling No. 10,	Hastings, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Sterling No. 11,	Barnesboro, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Sterling No. 13,	Spangler, Cambria Co.,	Drift,	Mules,	Pick,	Furnace.
Taylor Brothers,	Amsbury,	Slope,	Rope haulage,	Pick,	Fan.
Vinton No. 1,	Vintondale, Cambria Co.,	Drift,	Electric motor,	Machines,	Fan.
Vinton No. 2,	Vintondale, Cambria Co.,	Drift,	Rope haulage,	Machines,	Fan.
Webster No. 3,	Erenfeld, Cambria Co.,	Drift and slope,	Rope haulage,	Pick,	Fan.
Yellow Run,	Dunlo,	Shaft,	Rope haulage, partly,	Pick,	Fan.

TABLE No. 5.—List of fatal accidents that occurred in and about the Mines of the Sixth Bituminous Mine District for the year ending December 31, 1896.

Date of accident.	Name of Person.	Occupation.	Age.	Married.	Number of orphans.	Name of Colliery.	Location County.	Nature and Cause of Accident.
Jan. 9,	Philip Cok,	Miner,	19	No	....	Sonman shaft,	Cambria,	Severely injured on the head by a fall of coal. A shot had been fired and had not knocked coal down and he began to mine under it again, with the above result. The injury proved fatal in a few hours. It was a case of gross carelessness.
Feb. 24,	Andrew Esdepske,	Miner,	28	No	....	Delta,	Cambria,	Killed by a fall of coal. After taking out sprags and stump from under the coal, he lay down under it again to mine it in further, when the coal fell on him and killed him instantly.
29,	Robert Roses,	Miner,	36	Yes	....	Dean No. 1,	Cambria,	Injured by a fall of coal while undermining, and failed to put in a sprag to protect himself; his leg was badly crushed, and he was sent to the Altoona Hospital and died the following day.
May 6,	Andy Kopko,	Miner,	29	Yes	....		Cambria,	Killed by a fall of coal while cutting out a stump from under the fall.
18,	Albert Sentz,	Miner,	59	Yes	11	Rolling Mill mines,	Cambria,	He had a pick in his hand, sounding a piece of coal and it fell and struck the pick, and the handle struck him in a vital part. He died in two weeks from the injury.

Aug.	1.	Gules Tarter and son, ..	Miner, ...	40 16	Yes	4	Yellow Run, ...	Cambria, ...	This man had his room undermined across a distance of 22 feet, and he fired a hole in one corner, and it did not knock the coal down, and he went under this coal again to mine it in farther. He had but one sprag under this large mass of coal. His son was working close against the coal, and it fell and killed both instantly.
	26.	Stanly Walker, ...	Miner, ...	25	Yes	3	Alpha, ...	Cambria, ...	Was killed by a fall of coal. A slip came in at the back of his mining that could not be seen, which caused the coal to fall. It was an unforseen danger.
Sept.	7.	John Maitcoach, ...	Miner, ...	32	Yes	....	Yellow Run, ...	Cambria, ...	A fall of coal, and from pure carelessness. He had gone to eat his dinner, and when he came back his partner had put in a sprag to hold up the coal, and he cursed him for so doing and knocked it out again, and then lay under the coal to mine it further in, when it fell on him, crushing him to death.
	15.	Joe Blackesky, ...	Miner, ...	26	No	....	Yellow Run, ...	Cambria, ...	This man was mining under the coal when a piece of draw slate fell and struck him on the side, breaking three of his ribs, which caused death in about 20 hours after. He should have had a prop under this draw slate.
Nov.	24.	Ellis Whittaker, ...	Miner, ...	32	Yes	1	Stineman, ...	Cambria, ...	Killed by a fall of coal which struck him on the head and shoulders, while undermining; he died shortly after the accident.

TABLE No. 6.—List of non-fatal accidents that occurred in and about the Mines of the Sixth Bituminous Mine District, for the year ending December 31, 1896.

Date of accident.	Name of Person.	Occupation.	Age.	Married.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 11,	Morgan Watkins,	Driver,	35	Yes	Delta,	Cambria,	First kicked by the mule, and in getting away from the mule he was caught between the car and the rib, and the mule started, and he was badly squeezed, breaking his collar bone.
26,	Lawrence Paul,	Laborer,		No	Sonman shaft,	Cambria,	In moving some heavy machinery his finger was caught and taken off at the first joint.
Feb. 5,	Simon Chinemyer,	Miner,	50	Yes	Standard,	Cambria,	Rib broken by a fall of slate.
20,	Walter Routledge,	Driver,			Gallitzen slope,	Cambria,	Shoulder fractured by being struck by a car.
22,	John Prouty,	Miner,	2	No	Yellow Run,	Cambria,	Was injured by a flying stone from a shot in the rock. It struck him in the eye, knocking it out.
24,	John Breckner,	Miner,	36	Yes	Gallitzen slope,	Cambria,	Was caught between two cars at the bottom of slope. His leg was broken.
Mch. 23,	Antonio Spinald,	Miner,	46	No	ymbria,	Cambria,	Badly injured on the back by fall of rock.
April 20,	Louis Blin,	Driver,	28	No	Ivy Ridge,	Cambria,	Leg fractured by being caught between cars.
June 8,	George Byers,	Miner,	38	Yes	Argyle,	Cambria,	Leg broken by a fall of coal in neglecting to put in a sprag.
15,	William Poling,	Driver,	19	No	Stineman,	Cambria,	A car jumped the track and caught his leg, breaking it below the knee.
July 10,	George Guise,	Driver,			Gallitzen slope,	Cambria,	Injured by a fall of coal from a clay vein.
Aug. 24,	David Pegtail,	Driver,	45	Yes	Moshannon,	Cambria,	Car jumped the track and caught his leg, breaking it.
Sept. 17,	Frank Wilki,	Cager,	26	No	Sonman shaft,	Cambria,	Was caught between the bumpers of two cars, breaking his leg below the knee.

Oct.	11.	Beam, Colon	....	Trapper,	....	1	Meadmont,	....	....	He got on a loaded trip to ride out, and on the side track, when the cars came together, he slipped off and fell between them and had his leg crushed badly below the knee. It was found necessary to amputate the leg.
Dec.	26.	Johnson, Forsyth,	....	Driver,	....	24	No. Yellow Boy,	....	Cambria,	....	Was hauling a car out of a room, when his foot was caught in chain, and as his other foot was fast, he was severely injured.

SEVENTH BITUMINOUS DISTRICT.

(ALLEGHENY AND WASHINGTON COUNTIES.)

Office of Inspector of Mines.
Idlewood, Pa., February 15, 1897.

Hon. James W. Latta, Secretary of Internal Affairs:

Sir:—I have the honor of herewith presenting my annual report as Inspector of coal mines for the Seventh District of the Bituminous coal fields for the year 1896.

I am pleased to report that the sanitary condition of the majority of the mines is reasonably satisfactory, but in some cases improvements could be made in the ventilation, drainage and general system of working, that would be an advantage to both operators and miners. During the past two years quite a number of the mines have been equipped with mining machinery and where the change from pick to machine mining has ben made, it is generally found that an increased air volume is required, and while the ventilating appliances provided within the past few years were in most cases equal to the work required of them when the mining was done by hand labor, yet in some cases they will not produce an adequate volume of air after the introduction of the mining machines, and in such cases it becomes necessary to replace the ventilating appliances with something that is more powerful and better adapted to the changed condition. Some of the operators who have already spent a large sum of money to equip their mines with mining plants are sometimes rather tardy in incurring an additional expense in providing a new ventilator, and occasionally the operators give the Inspector considerable annoyance before he can prevail upon them to make the necessary provisions for the efficient ventilation of their mines as the old ideas still survive in some localities that ventilation and kindred matters relative to health and safety are of little importance, and can be attended to at some time in the distant future. The reason that a more abundant supply of air is required after the introduction of mining machinery, is on account of a much larger quantity of powder being used to blast down the coal, and the difficulty of regulating the blasting operations to any stated time. Short time caused by lack of trade ruled at a number of mines during

the past year, but the depression was more apparent than real, for notwithstanding that some mines were operated irregularly, there has been a steady increase in the tonnage produced, the increase amounting to 931,317 tons above that of 1895, and 1,386,000 tons more than for 1894, so that the depression in the business is not on account of any falling off in consumption, but is due to the development of new territory, and to the vastly enlarged producing capacity of many of the older mines. The natural advantages of our coal fields until recently were such that a trifling outlay would suffice to open up and equip a mining property, and when profits were reasonably good, many people rushed into the business expecting to receive handsome returns from their investments, but instead of large profits they have (for the time being) destroyed all chances of making any profit at all, and have brought about a condition bordering on semi-starvation for the miners and their families by reason of the ruinous competition and low prices caused by a large and increasing over-production. Those mines wherein the undercuttting is done by machinery have been operated nearly full time which may indicate that mines thus equipped are more profitable to the operators than where the mining is done by hand labor.

The number of lives lost during the year was 22, leaving 13 wives widows and 22 children orphans to mourn the loss of husband and father. This is an increase of 4 deaths over the number in 1895. The number of non-fatal accidents was 49, being a decrease of 4 from the number of like accidents for the year 1895.

The quantity of coal produced per life lost was 255,674 tons, a decrease of 5,076 tons per fatality from the previous year.

Number of tons, run of mine, of coal mined, ...	5,624,825
Number of tons of coke produced, ...	7,450
Number of mines in district, ...	72
Number of employes inside, ...	9,756
Number of employes outside, ...	808
Total number of employes, ...	10,564
Number of persons killed in and about the mines,	22
Number of non-fatal injuries, ...	49
Number of wives made widows by above fatalities,	13
Number of orphans from same cause, ...	22
Number of tons of coal produced per life lost,....	255,674
Number of tons of coal produced per person injured, ...	114,792
Number of persons employed per life lost, ...	480
Number of persons employed per non-fatal injury,	215
Number of horses and mules in use, ...	691
Number of steam boilers in use.	152

Causes of Accidents.	Fatal.	Non-fatal.	Widows.	Orphans.
By falls of slate and roof,	14	25	10	17
By falls of coal,		1		
By coal flying from a shot,		1		
By mine cars,	4	16	3	5
By explosion of gas,	1	6		
By explosion of steam boilers,	2			
From miscellaneous causes,	1			
Total,	22	49	13	22

The usual tables and statistics are included in this report, also a brief description of the condition of each mine, and improvements made during the year, and a few remarks bearing on the cause of each fatal accident, all of which is respectfully submitted.

Yours respectfully,

JAMES BLICK.

NEW MINES OPENED AND GENERAL IMPROVEMENTS MADE AT THE MINES IN THE SEVENTH BITUMINOUS MINE DISTRICT DURING THE YEAR 1896.

Beach Cliff.—Is a new mine opened by the Imperial Coal Company. A tipple and incline plane have been built, and the mine equipped with mining machines of the Harrison type. A 10-foot diameter, single inlet, Capell fan has been erected, to produce the necessary ventilation, together with all other improvements necssary for the successful operation of the mine.

Primrose.—A shaft was sunk, a 10-foot, single inlet, Capell fan erected and the mine equipped with mining machines of the Harrison type.

National.—A tunnel has been driven to the outcrop to drain the water from the mine, and a new furnace erected to furnish ventilation.

Oak Ridge.—A ventilating fan has been placed in position.

Cherry.—This mine has been equipped with a mining and haulage plant which is operated by electricity.

Summer Hill.—This mine was equipped with a wire rope haulage plant.

Bridgeville.—A new electric mining machine plant has been put in this mine.

Ridgway-Bishop.—A mining machine plant of the Harrison type has been installed at this mine.

Essen No. 1.—A new steel tipple was erected and a haulage plant provided to haul the coal from the bottom of the slope to the tipple. A new 20-foot fan was also erected to replace one destroyed by fire in the latter part of 1895.

Hite and Natrona.—Each of these mines was equipped with a wire rope haulage plant, which are giving satisfactory results.

DESCRIPTION OF MINES.

Mines on and near the Monongahela River.

Bellwood.—The general condition of this mine was satisfactory. On my last visit 27,000 cubic feet of air per minute was passing to the upcast shaft, and about 5,000 cubic feet was measured near the face of each butt entry.

Calhoon.—This is a small opening and very seldom more than 10 miners are employed. The product of the mine is used for domestic purposes, principally in the borough of Homestead. At the time of my last visit the mine was in fair condition. Cubic feet of air passing at inlet, 8,000 per minute.

Streets Run.—This mine was in fair condition when last examined. Quantity of air passing at the outlet, 11,000 feet per minute, and 5,000 cubic feet was measured in each butt entry. Drainage is in satisfactory condition.

Hays' Street Run Nos. 2 and 3.—General condition of mine is satisfactory. Good sweeping air currents are conducted through all parts of the workings. The drainage is also in satisfactory condition. Air in circulation, when last measured, 72,000 cubic feet per minute. One furnace is used to ventilate both mines.

First Pool Nos. 1 and 2.—Both mines in good condition when last examined. All matters pertaining to health and safety receive proper attention. Considerable quantities of explosive gas are generated in No. 2 mine—this necessitates the air currents to be conducted up to the face of all solid workings so as to avert danger from explosions. Air passing through the fan, when last measured, 95,600 cubic feet per minute. The same fan ventilates both mines.

Walton.—The general condition of this mine was favorable, but some of the details in matters pertaining to the ventilation need closer attention. I observed that some of the doors were left standing open much longer than was necessary, which prevented a constant flow of air to the face of the entries where it was most needed. The drainage and road-ways are in good condition. Fifty-one thousand cubic feet of air was passing at the outlet per minute.

Beck's Run.—This mine was in operation about three months only during the year. When last examination was made, the mine was in good condition. Air passing at the outlet, 46,000 cubic feet per minute, being well distributed to the working places.

Ormsby.—I have no complaints to make in regard to the condition of this mine. All matters pertaining to the health and safety of the employes seem to be well looked after. On some occasions considerable volumes of explosive gas are encountered in the entry and pillar workings, necessitating the use of locked safety lamps. Quantity of air passing at the furnace shaft, 35,000 cubic feet per minute.

Castle Shannon.—At my last visit to this mine, the condition as regards ventilation, was unsatisfactory. I observed that some of the doors were left open most of the time, and very little attention was given to conducting the air to the face of the workings, nor was the furnace fire receiving proper attention. The mine foreman is very old and feeble and his physical abilities are not equal to the duties required of a mine manager at the present day. Quantity of air at the outlet, when measured last, was 15,000 cubic feet per minute, but if properly attended to, the furnace will produce about 25,000 cubic feet. This would be ample for present needs if properly conducted to the working places.

Lick Run.—There has been considerable difficulty in draining the water from this mine, which has somewhat retarded the development of the coal field during the past year, but this has now been overcome and the conditions are much more favorable for making progress in the future. A small 10-foot fan has been provided, which is passing 16,500 cubic feet of air per minute. This volume of air is about sufficient for present needs.

Enterprise.—This mine, as usual, is in good condition. All parts of the workings were, at the time of my last visit, well supplied with fresh air. Quantity of air passing at the outlet, 80,000 cubic feet per minute.

Venture.—The ventilating fan was producing, when last measured 50,000 cubic feet of air per minute, and about 10,000 feet were passing near the face of each butt entry. There is a very large area of old workings adjacent to the working parts of this mine, and at certain times large volumes of black-damp escape from the old workings which mix with the air currents. The escape of this noxious gas cannot be prevented, and the only remedy is to force sufficient air through the mine to dilute and carry off the gas as fast as it is generated.

Fox.—On my last visit to this mine, I found that the air currents were not properly conducted forward to face of mine, the doors being out of repair, and two additional doors were needed. Quan-

tity of air in circulation, 16,000 feet per minute. This air volume is sufficient for all purposes if properly distributed.

Mines on the Panhandle Road.

Idlewood.—This mine is not in good condition. They are driving an entry to the outcrop at face of mine. This entry will be used as an inlet for the air current, which will improve the system of ventilation to some extent. Quantity of air passing at the upcast shaft, 9,500 cubic feet per minute. The drainage and roadways are in poor condition and the whole system of operation is a long way behind the age.

Grant.—The roadways were in their usual wet and muddy condition, and the ventilation was poor. Several entries are driven to the outcrop, and the natural power acts against the furnace, which is not powerful enough to maintain a steady constant air-current in the one direction. Quantity of air in circulation, 16,000 cubic feet per minute.

For Pitt.—This is a new opening. A new tipple has been built and the main and cross entries are driven forward several hundred feet into the coal field. The coal is undercut by machinery and a small electric motor is used to haul it from the mine to the tipple. The ventilation hitherto has been produced by a small fire-basket. During the greater part of the year, the condition of the mine as regards ventilation was very unsatisfactory, but they have recently sunk a shaft and built a furnace, and I am informed that the air produced by the furnace is sufficient for all purposes.

Cherry.—This mine was not in operation at the time of my last visit, but I examined the workings and found them in reasonably good condition. Quantity of air measured at the outlet was 15,000 cubic feet per minute. The mine has been equipped with under-cutting machinery and an electric haulage plant.

Champion.—The ventilation in this mine is inadequate and there can be no improvement until a more powerful ventilating apparatus is provided. At the time of my last visit they were driving a passageway to the surface and making preparations to erect a fan. Quantity of air passing at the outlets, 26,500 cubic feet per minute.

Nickel Plate.—On each visit to this mine, the workings were found in reasonably good condition. Average quantity of air passing through the butt entries was about 9,000 cubic feet per minute for each entry, and the total quantity passing at the outlet was about 38,000 cubic feet.

Black Diamond and Midway.—The former mine has been idle during the entire year. The latter mine has not been in operation more than about half time. This mine when last examined was in good condition. Air passing through the workings, 26,000 cubic feet per minute.

Primrose.—This mine has not been in full operation more than about four months during the year. Quantity of air in circulation when last examined, 38,200 cubic feet per minute, but since my last visit a new 10-foot, single inlet, Capell fan has been placed in position to ventilate the mine when operations are resumed. The capacity of this fan is about 100,000 cubic feet per minute.

Jumbo.—The general condition of this mine was favorable. All parts of the workings are fairly well supplied with ventilation, and the drainage and other matters pertaining to health and safety are receiving proper attention. Quantity of air passing into the mine, 58,000 cubic feet per minute.

Brier Hill.—On each visit made to this mine during the year the condition of the workings were found to be satisfactory. Quantity of air at outlet when last measured was 61,000 cubic feet per minute. The greater part of this air volume is well distributed to the working sections of the mine, and the workings are free from explosive gas, except that small quantities are frequently encountered at the face of the entries that are being driven into the unbroken coal field.

Laurel Hill Nos. 1, 2 and 4.—The ventilation in mine No. 1 is not very satisfactory. The total volume of air produced is 55,000 cubic feet per minute. This, if properly distributed, would be sufficient for all purposes, but by reason of the large number of doors in use and the unsatisfactory condition of section of the airways, much difficulty is experienced in conducting the air current forward to the face of the entries. Air bridges will be built and some of the main doors dispensed with in the near future, which will improve matters to some extent, but the manner in which the mine is laid out is not favorable for a perfect system of ventilation or drainage.

The No. 2 mine has been in operation about three months only during the year. Air in circulation, when last measured, 39,000 cubic feet per minute. There is nothing about the condition of the mine worthy of commendation. The quantity of air passing into No. 4 mine was 59,000 cubic feet per minute, but the air-ways were in bad condition and the doors were much broken and out of repair, so that a large portion of the air was lost by leakage before reaching the face of the workings. The roadways are wet and muddy and the general condition of the mine is very unsatisfactory.

National.—A new ventilating furnace was built, and a new opening made at the face of the mine for drainage, and as an inlet for the air current. Average quantity of air passing through each butt entry was 10,000 cubic feet per minute, and 36,000 cubic feet is passing at the outlet. At the present time an entry is being driven towards the workings of the old mine with the intention of draining the water therefrom. The old mine was flooded several years ago

and the pumps, boilers and most of the mine cars and road material which were submerged at that time can be recovered after the water is removed.

Oak Ridge.—The general condition of this mine is favorable. A 12-foot diameter fan has been erected during the year. At the time of my last visit the fan was producing 30,000 cubic feet of air per minute, this being ample for all purposes.

Pine Ridge.—Very little work has been done at this mine during the year. The ventilation needs improvement. Air in circulation when last examined, 5,000 cubic feet per minute. Number of persons employed, 25.

Boyd.—This mine is not in the best condition, as the drainage and ventilation need improvement. Quantity of air in circulation about 16,000 cubic feet per minute and while this air volume is equal to the minimum amount required by law, the requirements of the mine demand an increase in quantity.

Mansfield & Erie, and Pittsburg Fuel No. 2.—Both these mines have been idle throughout the year and there is no prospect of an early resumption of operations.

Mines on the Chartiers Valley Railroad.

Mansfield No. 2.—When last examined the general condition of this mine was favorable. Quantity of air in circulation, 74,000 cubic feet per minute. This is very well distributed to the various working places. Orperations were entirely suspended for some three months during the past summer.

Nixon.—This mine is in reasonably good condition. All matters pertaining to the health and safety of the employes are well cared for. Air in circulation, 42,000 cubic feet per minute. The mine was not operated to its full capacity during the year on account of dull trade.

Leasdale.—This mine has recently changed hands. A new ventilating furnace has been erected, which will produce about 25,000 cubic feet of air per minute, this, if properly distributed, will be sufficient to keep the workings in a safe and healthful condition. Operations were suspended for several months during the past summer.

Summer Hill.—The ventilation in this mine is below the requirements. They have for some time been sinking a shaft near the face of the main entry; this shaft is nearly through to the coal seam, and will be used as an inlet for the air current. After this is accomplished, the airways will be reduced in length and the total volume of air increased to an extent that will probably be sufficient for present requirements. Quantity of air in circulation when last measured, 30,100 cubic feet per minute.

Bower Hill.—This mine was not in operation on the date of my last visit, but I examined the workings and found them in reasonably good condition. Quantity of air at the outlet, 26,000 cubic feet per minute, but the furnace was not being fired to its full capacity on account of the mine being idle.

Bridgeville.—The general condition of this mine is favorable both in regard to ventilation and drainage. I measured a volume of 28,560 cubic feet of air per minute in circulation, which was being well conducted to the working parts of the mine.

Hastings Slope.—This mine has not been operated to its full capacity owing to lack of trade. The ventilation is not as good as it should be, and there cannot be much improvement made until a new ventilator is provided, but the operator has promised that this will be provided in the near future. Quantity of air in circulation, 9,000 cubic feet per minute.

Boon.—This mine is in reasonably good condition. Quantity of air passing through the different butt entries is about 6,000 cubic feet per minute at each, and the total quantity passing at the outlet when last measured was 23,500 cubic feet per minute.

Allison.—The condition of this mine when last examined was satisfactory both in regard to ventilation and drainage. Total quantity of air in circulation, 21,600 cubic feet per minute, which was being conducted forward to the face of the workings.

Enterprise No. 2 and Northwestern.—Operations have been suspended at both mines for several months past, and there seems to be no prospect of an early resumption. Both mines when last examined were in reasonably good condition. Quantity of air in each mine, 15,500 and 15,950 cubic feet per minute, respectively.

Morgan.—The general condition of this mine is now satisfactory. The system of ventilation and drainage is much better arranged than formerly. Quantity of air passing at the outlet, 38,000 cubic feet per minute, which is well distributed to the face of the mine so that the men get the benefit of nearly the entire volume of air produced, which has not always been the case at this mine.

Standard.—This mine is also in reasonably good condition. All parts are well supplied with fresh air and the health and safety of the men are properly guarded. Quantity of air in circulation, 48,000 cubic feet per minute. The mine has not been in operation more than about half time during the year.

Creedmore.—At the time of my last visit I observed that in some of the air splits the velocity of the air currents was not sufficient to keep the workings free from powder smoke. This can be overcome only by driving the fan at a greater speed, which cannot be done until a more powerful engine is provided for that purpose. In all

other respects the conditions were favorable. Quantity of air at outlet, 53,500 cubic feet per minute.

Ridgway-Bishop.—This mine has recently been equipped with mining machines of the Harrison type which are driven by compressed air and they seem to be giving great satisfaction. The sanitary condition of the mine in regard to ventilation, drainage and other matters pertaining to health and safety is reasonably good. Quantity of air in circulation when last measured, 30,000 cubic feet per minute, but the mine was not in operation on that day and the fan was not being driven at its usual speed. More powder is used by the miners since the mining machines have been introduced and more ventilation will be required to keep the workings in a healthful condition.

Mines on the P. C. & Y. R. R.

Pan Handle.—This is a large mine, employing a great number of men. Mining machines are used to undercut the coal. Blasting operations are carried on very extensively, and it requires very brisk air currents to clear away the powder smoke as fast as it is produced. The fan now in use is not equal to the work, and it should be dispensed with, and a more powerful one should be provided. Quantity of air passing at the inlet when last measured, 41,500 cubic feet per minute.

Essen No. 1.—This mine is in fair condition. All parts are well supplied with fresh air currents. The drainage is also in good condition. Quantity of air in circulation, 75,000 cubic feet per minute. A new steel tipple has been erected, also a new haulage plant for hauling the coal up the slope has been placed in position during the year, so that the mine is now in a very favorable condition for producing a large output of coal. The product of the mine is shipped to the Lake ports for the Northwestern trade, and operations are generally suspended during the winter season.

Beadling.—A bad squeeze has overrun part of this mine and closed up several of the cross entries, so that operations in the parts affected had to be abandoned. It sometimes requires skillful management to prevent a mine from being overrun by a squeeze, but it is very easy to bring on a squeeze, which, once started, the end thereof is very uncertain. Previous to this time the condition of the mine was anything but good, and I need hardly say that the effects of the squeeze have greatly retarded all attempts to make improvements. Nevertheless, the manager who has recently taken charge is doing all that can be done toward putting the mine in a satisfactory condition, and if he remains in charge, I have confidence that he will ultimately succeed in overcoming the difficulty within a

reasonable time. Quantity of air in circulation when last measured, 39,000 cubic feet per minute, but its distribution to the workings is very imperfect.

O. I. C.—The quantity of air in circulation in this mine when last measured was 14,000 cubic feet per minute. The general condition of the workings was favorable, except in one of the butt entries where they were turning several rooms in advance of the airway. The men who were working ahead of the air current were ordered to stop until the air was conducted forward to their working places.

Essen Nos. 2 and 3.—The sanitary condition of these mines is very imperfect. The quantity of air produced for each mine is far below the requirements. Mining machines are used to undermine the coal. A large quantity of powder is used in blasting down the coal, and it requires a very brisk air current to keep the workings clear of powder smoke and in a healthful condition and fit for men to work therein. The company is now making preparations to erect two new fans, one for each mine. The fans will be ready for use by the time operations are resumed for the Lake trade next season, and it is not likely that much coal will be mined in the meantime. Quantity of air passing in each mine, when last measured, was 23,400 and 23,000 cubic feet per minute respectively.

Federal.—The general condition of this mine is favorable. Quantity of air in circulation when last examined was 40,700 cubic feet per minute.

Federal Spring.—This mine is also in fair condition. I measured 18,000 cubic feet of air in circulation, which was being fairly well distributed to the working parts of the mine.

Beach Mount.—When last examined, the condition of the workings was satisfactory. Quantity of air passing at the face of the workings, 10,000 cubic feet per minute.

Hickman.—At the time of my last visit, some of the entries were flooded with water, which retarded the free circulation of the air current to the face of the workings. The roadways were in general wet and muddy. The wet condition of the roadways and workings was due to the large volume of water that flowed into the mine as a result of the heavy rains during the summer season. Quantity of air in circulation, 22,000 cubic feet per minute.

Mines on the Pittsburg and Lake Erie R. R.

Moon Run.—This is a large mine, employing a great number of miners. Both fan and furnace power are used to furnish the ventilation. The sanitary condition of the mine is reasonably good, and the total quantity of air in circulation when last measured was 122,000 cubic feet per minute. One section of the mine has recently been equipped with under-cutting machines of the Harrison type.

Beach Cliff.—This is a new opening during the past summer and is located a short distance from the old mine. A 10-foot diameter single inlet Cappel fan has been erected. The mine has also been equipped with a mining machine plant of the Harrison type. I made one visit to the mine and found everything in first class condition. Quantity of air in circulation, 56,600 cubic feet per minute, but the fan can produce double the quantity if necessary.

Margerum.—The sanitary condition of this mine is reasonably good. I measured 25,000 cubic feet of air per minute in circulation, which was being fairly well distributed to the working parts of the mine, excepting at times when some of the doors were left open longer than was necessary.

Montours.—This mine has been idle for several months past. When last examined I measured 39,000 cubic feet of air in circulation, and the workings were in good condition as regards healthfulness and safety.

Mines West of the Allegheny River.

Pine Creek.—When last examined was in fair condition, in regard to healthfulness and safety. Quantity of air in circulation, 19,500 cubic feet per minute.

Hite.—This mine is in first class condition. All parts are well supplied with plenty of fresh air. Quantity of air passing at the outlet, 54,000 cubic feet per minute. A new tipple has been erected and a new wire rope haulage plant introduced to haul the coal from the body of the mine to the tipple.

Brakenridge.—This mine, as usual, is in good condition. Drainage is in good condition and the workings well ventilated. Quantity of air produced, when last measured, 15,750 cubic feet per minute.

West Tarentum.—This is a small concern, and is not in good condition. The small furnace in use will not produce sufficient air volume for the efficient ventilation of the workings. At the time of my last visit I measured 2,000 cubic feet of air near the face of the workings. A new furnace should be erected in a more suitable location. The greater part of the air produced by the furnace is lost by leakage through the old workings, and this cannot be prevented until the location of furnace is changed.

Natrona.—This mine was in good condition when last examined. Quantity of air measured at the outlet, 60,000 cubic feet per minute, which was being fairly well distributed to the working parts of the mine. Drainage is also in good condition. A wire rope haulage has been erected to haul the coal from the main parting inside of the mine to the pit entrance, from which point it is run down on an inclined plane to the works, where it is consumed.

Freeport.—Was closed throughout the year, with no prospects of operations being resumed at an early date.

Accident List.

Frank Harkins, age 21 years, was instantly killed at the Ormsby mine on February 3d, by a piece of rock falling down the shaft. The deceased and several other employes were engaged in making repairs in the furnace upcast shaft. This shaft, which was sunk several years since, had become dangerous on account of the sides being much broken, which necessitated the building of a brick lining throughout its entire depth, a distance of 260 feet. The men had already made repairs in several places where the largest breaks had occurred, after which they commenced to build the brick wall at the bottom of the shaft intending to build upwards and connect with the brickwork which they had previously placed in position at the most dangerous places. At the time of the accident they were working about 30 feet above the base of the wall, when a piece of rock weighing about 200 pounds became disconnected about 130 feet above where the men were working, and fell upon Harkins causing instant death. The foreman said that he had examined the shaft about two hours before the accident and saw no indications of loose rock at the point from whence the rock fell, but with the greatest care the walling of the shaft was a dangerous undertaking and should have been done before the ground had broken and fallen to such a dangerous extent.

Patrick Carrigan, a miner, aged 54 years, was fatally injured in Laurel Hill No. 2 mine by a fall of slate on February 8th, and died February 15th. I was not informed of this man's injury until after his death, and men continued working in the room wherein the accident occurred, thinking that Carrighan was not seriously injured, consequently I did not examine the place at the time and can offer no opinion as to the cause of the accident.

Philip La Roy, aged 16 years, and Albert La Roy, aged 14 years, were instantly killed by the explosion of two steam boilers at Laurel Hill No. 1 mine on March 11th. The boys after coming from their work in the evening had gone into the boiler house presumably to warm themselves, and they were standing only about 4 feet from the boilers when the boilers exploded with terrific force. According to the testimony given before the coroner's jury it would appear that the day shift had quit work one hour before the accident, and the night engineer had just made his first tour of inspection and he reported that the boilers (eight in number) were all properly supplied with water, and that everything appeared to be in a safe condition, and that the steam guage indicated a pressure of 100 pounds, which was not in excess of the limit allowed by the boiler inspector, who testified that the boilers were all inspected and found in good condition about three months before the accident, and he attributed the accident to the probability of a deposit

of mud or sediment having settled on the bottom of the boilers immediately over the fire grates, which completely separated the water from the boiler plates, causing the plates to become heated to such an extent that they were expanded and torn asunder by the internal pressure. In the case of one of the boilers, the condition of the broken plates fully confirmed that opinion, but there were no indications of the plates having been overheated in the other boiler, but they were torn asunder at the rivet holes, which indicated an excess of pressure over that which the boilers were capable of sustaining. It is a common practice about the mines for people to be found loafing about the boilers during the winter months—a practice which should be strictly prohibited—and if this had been observed no lives would have been lost in this instance.

Jesse Hughes, a miner, aged 28 years, was fatally injured in the Allison mine by a fall of roof coal on April 16th and died in the hospital nine days after. The deceased and another man were working at mining out entry pillars; they were evidently working in a careless manner, not having set a sufficient number of props to the roof to protect themselves. Hughes was at the time of the accident undermining the coal directly beneath a large piece of the upper roof coal, which being unsupported by props, broke and fell. If the men had exercised proper care the accident could have been averted.

Peter Patcheuski, a miner, aged 37 years, was killed in his working place on April 22nd in the Pan Handle mine by a fall of slate. There were two men working in the room loading coal after the mining machines. The piece of slate that fell on the deceased would weight about 2,000 pounds and was encircled by a free natural slip, which destroyed its connection with the surrounding strata and in the absence of props it was left without support and fell. The danger in this case was so evident that no excuse could be offered for the failure to either take the slate down or to set props to prevent it from falling. The men were not practical miners and in all probability they did not realize their danger, for I cannot believe that they would have risked their lives in such a careless manner.

Mickel Pretslsmit, a miner boy, aged 14 years, was fatally injured by a fall of slate in the Becks Run mine on April 23d, and died the following day. The boy was working in a room with an elder brother. The piece of slate which fell on him measured 3x2x6 and it was separated from the adjoining strata by two natural slips known in mining parlance as "feather edge" slips, which cut through the slate at an angle of about 15 degrees. Slips of this nature are generally completely hidden from view and are very dangerous, often falling without the least warning and when least

expected. The room was well timbered and the boy lost his life by an accident that was unavoidable.

Christian Strazman, a miner, was killed by falling slate in the Allison mine on April 25th. This man and his son were mining coal from a room pillar. This pillar was about 9 feet broad and of course open at both sides. The over slate was one foot thick and extended back from the face of the coal about 5 feet, also across the whole breadth of the pillar. The man had set only one prop under this large mass of loose slate, whereas it would have required at least three props to have made it secure and safe to work under. The boy saw the danger and expressed a desire to pull the slate down, but the father forbade him to do so, saying that they would first load the car which the driver had just left at their room, after which they would take down and remove the slate. A few moments after the above conversation a piece of the broken slate weighing about 2,000 pounds, fell upon the man, causing instant death. The deceased was an old and practical miner and it seems strange that he should have risked him life in such a careless manner for the sake of trying to load his car a little sooner than he would have done had he taken the slate down when the boy wishet him to do so.

V. Jicano, a miner, was fatally injured by being crushed between a coal car and side of passage-way in the Primrose mine on May 2. This man met death under the following circumstances: He was standing on the entry roadway at the entrance to his room and the driver was passing along the entry with a trip of empty cars and when near to the place where the man was working, he saw him standing on the roadway and called to him to stand aside for the mule to pass him, but instead of doing so he remained standing in the center of the passageway until the trip was close upon him. The mule seeing the roadway obstructed by the man standing thereon, naturally turned aside into the room pulling the cars off the track, at the same instant the man made an attempt to run past the mule into his room and was crushed between the car and pillar of coal. He died the next day, having lost his life through his own stupidity. This man had worked in the mines only a short time and knew absolutely nothing about the dangers surrounding the miners' occupation, not even having had sufficient knowledge to stand aside for the trip of cars to pass him.

Wm. Walsh, a miner, aged 53 years, was killed by a fall of roof in the First Pool mine on May 28th. The deceased was loading coal after an under-cutting machine. He was a practical miner and his working place was well timbered and in good condition. The piece of roof which fell on him would weigh about 2,500 pounds. It was cut loose from the other strata by a natural cleavage which could not be seen until after the roof had fallen. The piece of roof

fell from between the face of coal and a row of props which were set 5 feet apart and 3 feet from the coal face.

Emilio Permiggiani, a miner, was fatally injured by being crushed between a full car and side of entry in the Beadling mine on May 27th. This man was riding between the cars on the full trip and made an attempt to jump off where there was not room to pass the cars, so that his body was crushed between the car and side of passageway. He had no right on the full trip and he lost his life by violating the mining law.

Lask Ctow, a miner, was killed by falling slate in the Pan Handle mine on June 5th. The deceased was loading coal in an entry when a piece of slate weighing about 1,500 pounds fell upon him striking him on the head causing instant death. There were two free slips passing through the slate, but they were both open to view, and the danger could have been detected by an ordinary inspection of the roof. As far as I could ascertain the man was not a competent miner and could not detect the danger or protect himself therefrom. The roof was wet which made the slate more dangerous than it otherwise would have been, but a practical miner could have readily protected himself.

Paul Manaolise, a miner, was killed by being crushed between an empty coal car and entry pillar at the Jumbo mine on June 18th. This man had gone into the mine in company with another person to seek employment. They went to the main change parting and remained there for some time expecting to meet the assistant foreman to ask him whether he could find them work or not. After waiting about an hour they started to go through the mine, but had not gone far into the workings when they met a driver with an empty trip of cars at a point where two roads intersected and instead of stepping to one side they remained in the center of the road along where the trip had to pass. The mule seeing the men standing in the roadway turned into the other entry and pulled the cars off the track; when too late the men attempted to get out of the way, and one succeeded in reaching a place of safey, but the other stepped to the side, right at the point where the cars left the track and he either fell or was knocked down by the cars, his head being crushed between the front car and side of entry, causing instant death. There were refuge holes in both directions and about 30 feet distant from where the men were standing, also there was plenty of room on the opposite side of the roadway, and one of the men saved himself by stepping aside into this open space and the other could have done the same had he retained his presence of mind. The men being strangers would of course know nothing about the location of the refuge holes, but they had no right to travel through the workings unless accompanied by one of the mine officials, and if they

had obeyed the law in this respect the man would not have lost his life.

John Furrie, a driver, aged 16 years, was killed by falling under a trip of loaded coal cars, in Hastings Slope mine, on August 5th. The boy was driving a team of mules which hauled the coal from the main change parting to the bottom of the slope. No one saw the accident but it would appear that the boy was either riding on the front end of the trip, and accidentally fell from the car, or was walking on the roadway immediately in front of the cars, and slipped and fell as one of the cars was pulled on him. The man employed at the bottom of the slope finding that the boy did not come out with his trip at the usual time, went along the passage-way into the mine to ascertain the cause of the delay. After proceeding some distance he found the mules standing on the roadway and the first car was pulled off the track but the driver could not be seen. Upon making further investigation the body was found doubled up under the car that had been pulled from the track. At the place where the boy was killed there is a slight up grade against the loaded trip.

John Bonacker, a miner, aged 24 years, was killed by a fall of slate and roof coal in his room, in the First Pool mine on September 9th. The deceased had worked his room through into an old abandoned working place which had been worked from another entry. The roof in this old working had fallen, which had partly destroyed the natural support of the slate under which the man was working; a free natural slip also passed through the slate and intersected with the broken strata in the old workings so that the slate was entirely disconnected from the surrounding strata. It was evident that the man had not made use of the proper safeguards to protect himself. He had set one prop only under the loose roof whereas he should have used at least three props to have secured the roof, and the knowledge of the fact that he was mining out the coal immediately adjoining the old workings should have been sufficient to have impelled him to have used extra precautions for his safety. He was loading the last car of coal which would have finished the room, and it appears that he indulged in the too common practice of risking life and limb rather than take the necessary time to make his working place safe. The one prop used was thrown out by the weight of the loose slate and roof coal which measured 6x8x22.

Whitson Moss, a colored miner, aged 30 years, was killed by an explosion of gas in Boyd mine on September 14th. This man came to his death through his own recklessness by deliberately walking into a body of gas with an open light. The fire boss had, before the men went to work, examined the mine as usual and he discovered a considerable quantity of fire-damp in the entry where the deceased worked and he (the fire boss) placed a danger signal across the

entry a short distance from the gas, and also placed a danger signal across the traveling way leading to the place where he had discovered the gas, and about 500 feet outside from it. Any person seeing a danger signal displayed in any part of the mine knows at once (or should know) that it is placed there to keep them out of danger, and that they are forbidden to pass into that part of the mine until the danger has been removed and the signal taken away. Moss gave no heed to either of the danger signals but passed over both of them, and ignited the gas with fatal results to himself. It is fortunate that no other persons were in that part of the mine at the time, or they too would have been killed.

Grant Woods, a colored miner, was killed by a fall of slate in his room in Laurel Hill No 4 mine on November 13th. The deceased was taking down coal that had been broken by a blast fired a short time before the accident. He was working directly beneath a large mass of loose slate, and the dangerous condition of the broken slate could readily have been detected by an ordinary inspection, but it seems that Woods was giving his whole attention to mining and loading the coal and made no effort either to take the slate down or set props to prevent it from falling. There was no other person present in the room at the time of the accident and it was some time after when the driver went into the room for the loaded car and found the body under the slate, life being extinct.

August Gearly, a miner, was instantly killed by a fall of slate in his working place in the Beadling mine on November 25th. This man was turning a room which was only 7 feet wide and was advanced about 18 feet from the entry. Two free slips which ran parallel to each other, one on either side of the room, passed through the slate which partly disconnected it from the adjoining strata on two of the sides; the front end of the slate was also cut loose by reason of part of the roof having been taken down to make height over the roadway so that the only natural support was on the side next the face of the room. The slips were both open to view, and if the man had examined the slate or if he had sounded it with his sledge hammer, he could have discovered the danger, but he was evidently devoting all his attention to the mining and loading of coal and did not take time to ascertain whether he was working in safety or not. The piece of slate which fell on him measured 6x4x1. There was no props set under it, and as it received no support from the surrounding strata, except on one side, it naturally broke and fell by its own gravity. The miner was either unable to recognize the danger, or he was wanting in forethought.

Michael Plano, a miner, aged 40 years, was fatally injured by a fall of roof in the Nickel-Plate mine on November 27th. The deceased was loading coal after the undercutting machine. A layer of strata known in mining parlance as horse-back roof, which

ran parallel with the room over the roadway for some distance, and there were two parallel slips, one on either side of the stratum of roof, which intersected about 18 inches above the coal bed completely disconnecting the loose roof from the surrounding strata, excepting a slight adhesion at the side next the face of the room.

This fact was well known to the miner who had previous to this time taken the dangerous roof down as he advanced forward with his room, but on this occasion either through oversight or neglect he failed to use the necessary precautions to secure his own safety but continued to work under the loose roof until it fell upon him causing injuries which proved fatal in about 4 hours.

Cuaemue Rachenu, a miner, aged 31 years, was killed by a fall of slate in his room at Jumbo mine on December 5th. The deceased with another man was working in a room which was only about 8 feet wide. A layer of horse-back roof nearly two feet thick and about 20 feet wide was encountered, which passed through the measures at a slight angle from the direction of the room. As a precautionary measure the room was being driven only about one-third of the usual width, until the dangerous roof should be passed. The men took the roof down as they advanced. On the day of the accident they had mined out the coal about 6 feet forward from the end of the slate, and they had set one prop under the roof for protection. After they had finished mining the coal for the day, they took the prop out thinking that the slate would fall or that it could be taken down with the pick, but failing in this they commenced to drill a hole to blast it down and while so engaged the slate fell, striking Rachener with such force as to cause instant death. When they failed to pull the slate down they should have re-set the prop until they were ready to fire the blast, and they made a fatal mistake is not having done so.

John Miller, a miner, aged 40 years, was killed by a fall of slate in his working place at the Laurel Hill No. 1 mine on December 23rd. Miller and his son were loading coal after undercutting machines. They had just gone into the room to blast down and load out a cut of coal. They fired a shot in the road side of the room which broke but did not dislodge the coal. The deceased at once began to shear the coal so as to give it freedom to fall. He had only cut into it about six inches when a part of the coal and a large piece of slate fell. The slate would weigh about 4,500 pounds and was encircled by a free natural slip which extended to and intersected about two feet above the base of the roof coal. There was no visible indication of the dangerous nature of the roof, and probably the man considered that he was working in safety. The whole mass of slate fell upon Miller crushing him so that death was instantaneous. The man was a practical and careful miner and the occurrence was purely accidental.

Table No. 1.– Showing location, etc, of collieries in the Seventh Bituminous Mine District.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Postoffice Address.
Allison	J. V. H. Cook & Sons,	Washington,	R. M. Cook,	McGovern.
Bower Hill	Bower Hill Mining Co.,	Allegheny,	W. W. Dempster,	Woodville.
Beach Cliff,	Imperial Coal Co.,	Allegheny,	L. S. Young,	Imperial.
Bellwood,	Munhall Brothers,	Allegheny,	John Munhall,	Munhall.
Becks Run,	Hays Coal Co.,	Allegheny,	Julius Esmiol,	Redman Mills.
Beadling,	Beadling Brothers,	Allegheny,	Thomas Gray,	Beadling.
Bridgeville,	Bridgeville Coal Co.,	Allegheny,	John F. Hosack,	Bridgeville.
Boyd,	Boyd Coal Co.,	Allegheny,	Jesse H. Sanford,	Carnegie.
Beachmount,	Beach Mount Coal Co.,	Allegheny,	J. C. McMichael,	Hickman.
Brackenridge,	Brackenridge Coal Co.,	Allegheny,	Alfred Hicks,	Leechburg.
Boon,	Canonsburg Coal Co.,	Washington,	E. T. Hitchman,	Canonsburg.
Brier Hill,	Patterson & Sauters,	Washington,	J. D. Sauters,	McDonald.
Creedmore,	Ohio and Pennsylvania Coal Co.,	Washington,	Ruben Street,	Cecil.
Champion,	Robbins Coal Mining Co.,	Allegheny,	G. W. Schluederberg,	Pittsburg.
Cherry,	M. McCue & Co.,	Allegheny,	James Boyle,	3d ave. & Fry st., Pitts.
Castle Shannon,	Pittsburg and Castle Shannon R. R. Co.,	Allegheny,	E. J. Reamer,	50 Carson st., Pittsburg.
Calhoon	W. S. B. Hays,	Allegheny,	W. S. B. Hayes,	Homestead.
Enterprise,	Hartley & Marshall,	Allegheny,	Beecher Hartley,	Banksville.
Essen Nos. 1, 2 and 3,	Essen Coal Co.,	Allegheny,	Thomas Renshaw and William Baldwin.	1st, Essen; 2d Federal.
Enterprise No. 2,	Pittsburg and Belle Vernon Coal Co.,	Washington,		Arden.
Federal,	Chartiers Block Coal Co.,	Allegheny,	Wm. Baldwin,	Federal.
Freeport,	Chartiers Block Coal Co.,	Allegheny,	Alfred Hicks,	Leechburg.
Fox,	Thomas Fox,	Allegheny,	Thomas Fox,	West End, Pittsburg.
Federal Spring	Federal Coal Co.,	Allegheny,	R. P. Grist,	Hickman.
First Pool Nos. 1 and 2,	First Pool Mon. Gas Coal Co.,	Allegheny,	G. W. Schluderberg,	Pittsburg.
Fort Pitt,	Pittsburg Block Coal Co.,	Allegheny,	Chas. J. Nebo,	Walkers Mills.
Grant,	W. L. Scott Co.,	Allegheny,	George Z. Hosack,	Carnegie.
Hickman,	Federal Coal Co.,	Allegheny,	R. P. Grist,	Hickman.
Hays Street Run Nos. 2 & 3	Hays Coal Co.,	Allegheny,	John Watson,	Homested.
Hastings slope,	Slope Mines Coal Co.,	Allegheny,	W. J. Morgan,	Bridgeville.
Hite,	McFetridge Brothers,	Allegheny,	G. H. McFetridge,	Hite.
Idlewood,	T. D. Steen,	Allegheny,		Idlewood.
Jumbo,	Pittsburg Consolidated Coal Co.,	Washington,	G. W. Schluderberg,	Pittsburg.
Laurel Hill Nos. 1, 2 and 4,	The Pittsburg & Western Coal & Coke Co.,	Washington and Allegheny,	David Brown,	McDonald.
Lick Run,	Keeling Coal Co.,	Allegheny,	Peter Keeling,	Pittsburg.
Leasdale,	S. P. Gregg,	Allegheny,	Jesse Sanford,	Carnegie.
Montours,	Imperial Coal Co.,	Allegheny,	L. S. Young,	Imperial.
Mansfield No. 2,	Mansfield Coal and Coke Co.,	Allegheny,	Daniel Boden,	Carnegie.
Mansfield and Erie,	Pittsburg Fuel Co.,	Allegheny,		Pittsburg.
Midway,	Midway Block Coal Co.,	Washington,	G. W. Schluederberg,	Pittsburg.
Margerum,	Morgan, Moore & Baine,	Allegheny,	James F. Cook,	Imperial.
Moon Run,	Moon Run Coal Co.,	Allegheny,	N. H. Sanford,	Moon Run.

Morgan,	Millers Run Coal Co., Limited,	Allegheny,	Peter Watkinson,	Morgan.
National,	National Coal Co., Limited,	Allegheny,	John F. Mulloly,	Noblestown.
Nixon,	Alex Block Coal Co., Limited,	Allegheny,	Wm. Linsley,	Jeant.
Natrona,	Pennsylvania Salt Manufacturing Co.,			
North Western,	Pittsburg and Belle Vernon Coal Co.,	Allegheny,	J. D. Sauters,	Pittsburg.
Nickel Plate,	J. D. Sauters,	Allegheny,	Peter Keeling,	McDonald.
Ormsby,	Keeling Coal Co.,	Allegheny,	G. W. Schluederberg,	Pittsburg.
Oak Ridge,	Oak Ridge Coal Co., Limited,	Allegheny,	James H. Bates,	Pittsburg.
O. I. Co.,	W. J. Steen,	Allegheny,	G. W. Schluederberg,	Box 38, Carnegie.
Pine Creek,	Robbins & Co.,	Allegheny,	F. W. Mankedick,	Pittsburg.
Pine Ridge,	Mankedick Coal Co.,	Allegheny,	F. W. Jones,	Oakdale.
Pan Handle,	The Pan Handle Coal Co.,	Allegheny,		Essen.
Pittsburg Fuel No. 2,	Pittsburg Fuel Co.,	Allegheny,	G. W. Schluederberg,	Pittsburg.
Primrose,	Pittsburg Consolidated Coal Co.,	Washington,		Bishop.
Ridgway Bishop,	Ridgeway Bishop Coal Co.,	Washington,	Wm. L. Nancarrow,	Hope Church.
Streets Run,	The Harrison Gas Coal Co.,	Allegheny,	Frank Armstreng,	Pittsburg.
Summer Hill,	Frank Armstrong,	Allegheny,	James Collins,	Gradatim.
Standard,	Standard Coal Co.,	Allegheny,	E. N. Wildman,	W. Carson st., Pittsburg.
Venture,	Saw Mill Run Coal Co.,	Allegheny,	G. W. Schluederberg,	Pittsburg.
Willow Grove,	Willow Grove Mining Co.,	Allegheny,	John M. Kapp,	Redman Mills.
Walton,	Joseph Walton & Co.,	Allegheny,	G. H. McFetridge,	Hite.
West Tarentum,	McFetridge Brothers,	Allegheny,		

TABLE No. 2.—Gives the total number of tons of coal mined, coke manufactured and tons of coal shipped in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder used, etc., in the Seventh Bituminous Mining District for the year ending December 31, 1896.

Names of Collieries.	Location County.	Total production in tons of coal.	Total production in tons of coke.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Number coke ovens.
Allison,	Washington,	96,313	.....	96,313	153	155	2	1	50	.....	15	.....	.....
Bower Hill,	Allegheny,	53,215	.....	53,215	.....	229	.....	2	.....	.....	10	.....	.....
Bellwood,	Allegheny,	80,452	.....	80,452	117	204	.....	.....	.....	.....	12	.....	.....
Beadling,	Allegheny,	209,058	.....	208,443	212	267	2	4	792	5	15	.....	.....
Bridgeville,	Allegheny,	97,179	.....	97,179	187	214	.....	.....	150	2	11	.....	.....
Boyd,	Allegheny,	46,597	.....	46,147	209	90	1	.....	.....	2	3	.....	.....
Beachmount,	Allegheny,	39,000	.....	38,000	200	70	.....	.....	.....	2	6	.....	.....
Becks Run,	Allegheny,	41,801	.....	41,801	54	248	1	1	.....	4	16	.....	.....
Brakenridge,	Allegheny,	45,000	.....	‡	308	49	.....	.....	415	.....	2	.....	.....
Beach Cliff,	Allegheny,	17,948	.....	17,948	112	68	.....	.....	.....	4	6	.....	.....
Boon,	Washington,	39,820	.....	39,820	133	92	.....	.....	.....	1	5	.....	.....
Brier Hill,	Washington,	82,959	.....	81,908	207	192	.....	.....	.....	3	9	.....	.....
Creedmore,	Washington,	144,000	.....	144,000	195	242	.....	.....	250	4	10	.....	.....
Castle Shannon,	Allegheny,	56,376	250	*	.....	108	.....	.....	.....	.....	12	.....	4
Champion,	Allegheny,	136,576	.....	136,576	174	234	.....	.....	.....	6	16	.....	.....
Cherry,	Allegheny,	60,172	.....	63,465	210	98	.....	.....	.....	1	6	.....	.....
Calhoun,	Allegheny,	6,400	.....	6,400	300	12	.....	.....	.....	.....	2	.....	.....
Enterprise,	Allegheny,	149,007	.....	149,007	192	260	.....	.....	.....	3	13	2	.....
Essen No. 1,	Allegheny,	106,838	.....	105,183	144	272	.....	2	.....	2	12	.....	.....
Essen No. 2,	Allegheny,	155,951	.....	155,566	196	237	.....	5	.....	1	7	.....	.....
Essen No. 3,	Allegheny,	189,772	.....	187,602	208	281	.....	7	.....	2	13	.....	.....
Enterprise No. 2,	Washington,	17,600	.....	17,300	50	98	.....	.....	.....	2	5	.....	.....
Federal,	Allegheny,	24,647	.....	24,647	62	123	.....	1	.....	1	6	.....	.....
Fox,	Allegheny,	11,188	.....	11,188	250	28	.....	.....	.....	1	2	.....	.....
Federal Spring,	Allegheny,	79,998	.....	79,998	190	151	.....	.....	.....	.....	7	.....	.....

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TABLE No. 3.—Showing the number of each class of employes of each colliery in the Seventh Bituminous Mine District, during the year 1896.

Names of Collieries.	Location. County.	Number of Persons Employed Inside.							Number of Persons Employed Outside.						
		Inside foreman or mine boss.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Doorboys and helpers.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	All company men.	Superintendents, bookkeepers and clerks.	Total outside.	Grand totals—inside and outside.
Allison,	Washington,	1	130	2	1	11	.....	145	.....	1	.....	8	1	10	155
Bower Hill,	Allegheny,	1	200	10	.....	10	1	222	1	1	.....	5	.....	7	229
Bellwood,	Allegheny,	1	150	20	2	12	.....	185	1	1	2	14	1	19	204
Beadling,	Allegheny,	3	205	14	12	13	3	250	1	3	3	8	2	17	267
Bridgeville,	Allegheny,	1	175	15	2	8	2	203	.....	3	2	5	1	11	214
Boyd,	Allegheny,	1	73	.....	6	3	2	85	.....	2	1	1	1	5	90
Beachmount,	Allegheny,	1	50	1	1	6	1	60	1	1	1	6	1	10	70
Becks Run,	Allegheny,	1	190	8	4	16	2	221	1	2	3	18	3	27	248
Brackenridge,	Allegheny,	1	40	1	1	2	.....	45	.....	.....	.....	3	1	4	49
Beach Cliff,	Washington,	1	40	4	3	6	1	55	1	4	3	5	.....	13	68
Boon,	Washington,	1	78	.....	1	4	.....	84	1	1	1	4	1	8	92
Brier Hill,	Washington,	1	150	12	5	10	1	179	1	1	2	8	1	13	192
Creedmore,	Allegheny,	1	200	7	7	10	.....	225	.....	2	5	10	.....	17	242
Castle Shannon,	Allegheny,	1	81	4	2	6	1	95	1	2	.....	8	1	13	108
Champian,	Allegheny,	1	175	16	6	11	4	213	.....	3	5	12	1	21	234
Cherry,	Allegheny,	1	68	8	8	5	.....	88	1	2	2	5	.....	10	98
Calhoon,	Allegheny,	.....	8	.....	.....	1	.....	9	.....	.....	.....	2	1	3	12
Enterprise,	Allegheny,	1	192	16	13	15	3	240	1	4	4	9	2	20	260
Essen No. 1,	Allegheny,	2	240	.....	4	12	2	260	.....	3	2	7	.....	12	272
Essen No. 2,	Allegheny,	1	160	10	35	13	4	223	1	4	1	8	.....	14	237
Essen No. 3,	Allegheny,	1	180	10	45	18	4	258	1	6	6	9	1	23	281
Enterprise No. 2,	Washington,	1	80	.....	2	5	2	90	1	2	2	3	.....	8	98

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TABLE No. 4.—List of fatal accidents that occurred in and about the mines of the Seventh Bituminous Mine District, for the year ending December 31, 1896.

Date of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Feb. 3,	Frank Harkins,	Sinker,	21			Ormsby,	Allegheny,	Instantly killed by a piece of rock falling upon him in the shaft.
8,	Patrick Carrighan,	Miner,	54	1	4	Laurel Hill No. 2,	Washington,	Fatally injured by fall of slate in his room; died February 15.
Mch. 11,	Philip La Roy,	Miner boy,	16			Laurel Hill No. 1,	Allegheny,	Instantly killed by a boiler explosion. Outside of the mine.
11,	Albert La Roy,	Miner boy,	14			Laurel Hill No. 1,	Allegheny,	Instantly killed by a boiler explosion. Outside of the mine.
April 6,	Jesse Hughes,	Miner,	28	1		Allison,	Washington,	Fatally injured by a fall of roof coal. Died April 25.
22,	Peter Patchenski,	Miner,	37			Pan Handle,	Allegheny,	Instantly killed by a fall of slate in his room.
23,	Mickel Pretslsmit,	Miner boy,	14			Becks Run,	Allegheny,	Fatally injured by fall of slate in his room; died the following day.
25,	Christian Strazman,	Miner,	32	1	1	Allison,	Washington,	Instantly killed by fall of slate in his room.
May 2,	V. Jicano,	Miner,	39	1	1	Primrose,	Washington,	Instantly killed by being crushed between mine car and entry pillar.
21,	Mike Hardy,	Miner,	35	1	3	Moon Run,	Allegheny,	Fatally injured by fall of slate in his room; died in hospital, August 19.
27,	Emilio Permiggiani,	Miner,	28	1	2	Beadling,	Allegheny,	Fatally injured by being crushed between car and side of entry.
28,	William Walsh,	Miner,	53	1		First Pool,	Allegheny,	Instantly killed by fall of slate in his room.
June 5,	Lask Atow,	Miner,	33	1	1	Pan Handle,	Allegheny,	Killed by fall of slate in his working place.
13,	Paul Manadise,	Miner,	29	1	2	Jumbo,	Washington,	Killed by being crushed between car and side of entry.
Aug. 5,	John Furrie,	Mule driver,	16			Hastings slope,	Allegheny,	Killed by falling under loaded coal cars.
Sept. 9,	John Bonacker,	Miner,	24			First Pool,	Allegheny,	Killed by fall of slate and roof coal in his room.

Nov.	14.	Wilson Moss,	Miner,	30		Boyd,	Allegheny,		Killed by an explosion of gas.
	18.	Grant Woods,	Miner,	28		Laurel Hill No. 4,	Allegheny,		Instantly killed by fall of slate in his room.
	25.	Augustus Beatty,	Miner,		1	Beadling,	Allegheny,		Instantly killed by fall of slate in his room.
Dec.	27.	Michael Plane,	Miner,	40	1	Nickel Plate,	Allegheny,		Killed by fall of roof in his room.
	7.	Ottavnue Ricchetti,	Miner,	31	1	Jumbo,	Washington,		Killed by fall of roof in his room.
	23.	John Miller,	Miner,	40	1	Laurel Hill No. 1,	Washington,		Killed by fall of slate in his room.

TABLE No. 5.—List of Non-fatal accidents that occurred in and about the mines of the Seventh Bituminous Mine District, for the year ending December 31, 1896.

Date of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location County.	Nature and Cause of Accident.
Jan. 11.	Allen Gilmore,	Miner,	68	Yes	....	Morgan,	Allegheny,	Fell under coal cars and his leg was seriously injured, necessitating amputation.
16.	Richard Waters,	Miner,	25	No	....	Moon Run,	Allegheny,	Back seriously injured by fall of slate.
23.	Joseph Powell,	Miner,	18	....	....	Jumbo,	Washington,	Leg broken by falling under a loaded car.
Feb. 3.	Thomas Morris,	Miner,	24	Yes	....	Standard,	Allegheny,	Ankle broken by fall of coal and slate.
15.	Steve Mohare,	Miner,	30	No	....	Standard,	Allegheny,	Back injured by fall of slate.
18.	Martin Price,	Miner,	54	Yes	4	Pan Handle,	Allegheny,	Leg broken by fall of slate.
21.	Mike Strout,	Mule driver,	35	No	....	Beck's Run,	Allegheny,	Leg broken by falling in front of his trip of coal cars.
22.	Daniel Young,	Miner,	35	Yes	....	Jumbo,	Washington,	Injured by an explosion of gas.
22.	William Young,	Miner boy,	13	....	....	Jumbo,	Washington,	Injured by an explosion of gas.
Mch. 3.	John Huas,	Miner,	34	No	....	Ridgway Bishop,	Washington,	Injured by being caught between coal cars and side of entry.
13.	John Corney,	Mule driver,	21	No	....	Laurel Hill No. 4,	Allegheny,	Slightly injured by coal cars.
April 16.	Samuel McMuller,	Miner boy,	17	....	....	Nickel Plate,	Allegheny,	Leg broken by fall of slate.
22.	John Kroesock,	Miner,	....	....	....	Essen No. 3,	Allegheny,	Two ribs broken and otherwise injured by coal flying from a blast.
28.	Samuel Leyman,	Miner,	23	No	....	Moon Run,	Allegheny,	Leg broken by fall of slate.
28.	Edward,	Miner,	22	No	....	Jumbo,	Washington,	Injured about head and body by fall of slate.
May 22.	Nick Bummer,	Miner,	19	....	....	First Pool,	Allegheny,	Leg and side injured by fall of slate.
23.	Mathew Conshon,	Miner,	47	....	....	Standard,	Allegheny,	Leg broken in three places by fall of coal.
25.	Andy Tennant,	Mule driver,	24	No	....	Federal,	Allegheny,	Injured by being squeezed between cars and side of entry.
June 13.	Thomas Sungeil,	Miner,	29	No	....	Essen No. 2,	Allegheny,	Leg injured by fall of slate.
25.	John Johnson,	Mule driver,	28	No	....	Essen No. 1,	Allegheny,	Slightly injured by coal cars.
26.	John W. Lawton,	Helper,	....	....	....	Essen No. 1,	Allegheny,	Leg crushed between coal cars, necessitating amputation.

	27.	John Richards,	Trip runner,	21	Yes	3	Jumbo,	Washington,	Leg injured by the dilly trip running into a fall of roof on main entry.
July	3.	Omer Overt,	Miner,	23	No	....	Laurel Hill No. 1,	Washington,	Injured by an explosion of gas.
	14.	Paul Smith,	Miner,	46	Yes	3	Bower Hill,	Allegheny,	Hip dislocated by fall of slate.
	20.	Mike Lesco,	Miner,	30	Yes	....	Beadling,	Allegheny,	Seriously injured by fall of slate.
Aug.	3.	Henry Bushmeir,	Mule driver,	17	....	....	Essen No. 2,	Allegheny,	Leg broken by having been run over by coal cars.
	8.	Frederick Pascol,	Miner,	24	No	....	Essen No. 3,	Allegheny,	Leg injured by coal cars.
	19.	Howard Merreally,	Mule driver,	17	....	....	Beadling,	Allegheny,	Seriously injured by falling under a trip of loaded cars.
	27.	Stephen Rodinovick,	Miner,	29	Yes	....	Laurel Hill No. 4,	Allegheny,	Head seriously injured by fall of slate.
	31.	George Rusia,	Miner,	75	Yes	....	Essen No. 3,	Allegheny,	Injured by being squeezed between car and side of entry.
	31.	James McKenna,	Miner,	42	....	....	Essen No. 2,	Allegheny,	Collar bone broken by being caught between car and prop.
Sept.	2.	Peter Shafer,	Miner,	40	Yes	1	Pan Handle,	Allegheny,	Three ribs broken and leg injured by fall of slate.
	7.	Andrew Dudesik,	Miner,	23	No	....	Essen No. 3,	Allegheny,	Leg severely crushed by fall of slate.
	10.	William Curry,	Miner,	38	No	....	Essen No. 3,	Allegheny,	Foot injured by fall of slate.
	17.	John Mitchell,	Miner,	26	No	....	Beadling,	Allegheny,	Slightly injured by fall of slate.
	27.	Anton Pazur,	Miner,	30	No	....	Essen No. 2,	Allegheny,	Injured by fall of slate.
Oct.	2.	Joseph Rush,	Mule driver,	27	No	....	Essen No. 2,	Allegheny,	Leg broken by being caught between car and side of entry.
	15.	Antony Panco,	Miner,	28	Yes	1	Beadling,	Allegheny,	Leg injured by fall of slate.
	16.	Theodore Reidenger,	Miner,	34	Yes	1	Allison,	Washington,	Injured by fall of slate.
	17.	Joseph Regavisat,	Miner,	25	....	....	Summer Hill,	Allegheny,	Leg broken and hand injured by being run over by cars.
	28.	Alex. Dempster,	Miner,	20	....	....	Fort Pitt,	Allegheny,	Back seriously injured by fall of slate.
Nov.	4.	William Cressley,	Miner,	38	No	....	Fort Pitt,	Allegheny,	Back injured by fall of slate.
	9.	John Lukens,	Miner,	47	Yes	2	Essen No. 3,	Allegheny,	Foot injured by fall of slate.
	17.	Frank Rudge,	Miner,	25	No	....	Essen No. 3,	Allegheny,	Two ribs broken by fall of slate.
	18.	John Zigmund,	Miner,	20	No	....	Moon Run,	Allegheny,	Leg broken by fall of slate.
	24.	Andy Slusher,	Miner,	11	Yes	....	Bower Hill,	Allegheny,	Leg broken by fall of slate.
	25.	Nicholas Ryland,	Miner,	41	Yes	4	Ormsby,	Allegheny,	Injured by explosion of gas. The father and two sons were mining coal in a room pillar when a heavy fall occurred, liberating gas which ignited from their open lights.
	25.	Peter Ryland,	Miner,	22	....	....	Ormsby,	Allegheny,	
	25.	Nichol Ryland, Jr.,	Miner boy,	15	....	....	Ormsby,	Allegheny,	

EIGHTH BITUMINOUS DISTRICT.

(CLEARFIELD, CENTRE AND JEFFERSON COUNTIES.)

Philipsburg, February 5th, 1897.

Honorable James W. Latta, Secretary of Internal Affairs, Harrisburg, Pa.

Sir:—I have the honor of presenting to you my second annual report as Inspector of Mines of the Eighth Bituminous District of Pennsylvania, for the year ending December 31st, 1896. It contains the usual statistical tables relating to the location of collieries, total net tons of coal mined, the number of employes including foremen, and the number of fatal and non-fatal accidents, together with the changes made in and about the mines, either for the haulage of coal or ventilation, also a report of the efficient work of the Cottage State Hospital.

The total quantity of coal mined was 3,809,472 tons, a decrease of 900,460.18 tons as compared with last year. The decrease is attributable to dullness of the coal trade in this section of the State.

It is very gratifying to be able to report the large decrease in the number of fatal accidents, there having been only six fatal cases as compared with 13 in the preceding year, and while the non-fatal cases numbered 36, being slightly in excess of the preceding year, yet quite a number were of a very slight nature. Thus making the number of tons mined per fatal accident, 634,912 tons, or an increase over last year of 272,609.57 tons per fatal accident.

The changes in and about the mines consist of four new mines, drift openings, all on the Moshannon seam of coal. Five mines were abandoned, coal either having been exhausted or reduced to such a small seam that it would not justify the operator in mining it. Seven new drifts have been opened on existing properties to improve haulage, and three manways opened to be used as traveling ways. Two new fans were added to the appliances for ventilation and three steam boilers to supply them with steam. Four air shafts were sunk to improve ventilation, to be used as inlets for air or furnace shaft, which will improve the general condition of the mines; shafts ranging from forty to sixty feet deep only, and five to six feet in diameter.

I had occasion to bring suit, against Daniel D. Jones, contractor and foreman of Whiteside No. 1 Mine, for non-compliance with my request after giving him due notice in writing of the violation of

Article II, sections 1 and 2 of the bituminous mine laws, and reading the same to him, and also posting it in his office at the mine. But the Honorable Judge Gordon of the court of Clearfield county, quashed the indictment, giving as his reason therefore and filing the same in writing, that he considered said law unconstitutional; a report of which is added to my report. After having been verbally advised by the Honorable H. C. McCormick, Attorney General, the case is appealed to the Superior Court. I remain,

Yours very respectfully,

JOSEPH KNAPPER,
Inspector.

In the Court of Quarter Sessions of Clearfield County.

Commonwealth vs. Dan D. Jones. } No. —, December Term, 1896.

Now, December 8th, 1896, the defendant by his attorney moves to quash the indictment for the following reasons:

The indictment in this case is framed under the provisions of the act of May 15, 1893, which is clearly unconstitutional, as it offends against the second section of Article III of the Constitution.

First. The act of May 15th, 1893, P. L. 52, contains more than one subject.

Second. The act is special legislation, and includes only a portion of the bituminous coal mines of this State.

Third. The subjects contained in act of May 15th, 1893, are not clearly expressed in the title.

Now, 8th December, 1896, being of opinion that the act of Assembly of 15th of May, 1893, under which this indictment is framed is unconstitutional, the defendant's motion to quash must be granted.

As I view it, the act is unconstitutional on two grounds, viz:

First. It is in conflict with Article III, section 7, of the Constitution, which provided that "General Assembly shall not pass any local or special law, regulating labor, trade, mining or manufacture," because it does not extend to the entire State, nor to all the bituminous coal mines therein, but is confined to the coal mines, which at the time of the passage of this act, were not "included in the anthracite boundaries." The act assumes, and it is conceded as a fact that the section of the State in which anthracite coal abounds is known as the anthracite region. And that in which bituminous coal abounds is known as the bituminous region. Article XXII of the act gives definitions of the various technical terms applying to the coal business, used therein, among which is the term, "bituminous mines," which is defined thus: "the term bituminous "coal mines" shall include all the

coal mines in the State not now included in the anthracite boundaries." The title of the act indicates it is confined to bituminous coal mines, if any, which may be located within the anthracite boundaries (which boundaries are not fixed and are of uncertain extent and location) and includes "all coal mines," whether anthracite, bituminous, semi bituminous, cannel or other coal which are located outside of said boundaries. This is local legislation and is prohibited by the Constitution.

Second. The act is in conflict with section 3, Article III, of the Constitution, which provides, that "No bill shall be passed containing more than one subject, which shall be clearly expressed in the title." The title reads, "An act relating to bituminous coal mines and providing for the lives, health, safety and welfare of persons employed therein." It confines the act as to property to bituminous coal mines, and as to persons to those "employed therein." There is nothing in the title indicating that the violation of its provisions would constitute a crime or misdemeanor, punishable as such, and yet the act creates such crime and provides for its punishment. Prior to its passage the acts charged in the indictment were not criminal. Making them so was a radical change in the law and the title furnished no notice to persons engaged in operating coal mines of such change. The purpose of the Constitutional requirement is to furnish notice to the members of the Legislature, and all persons interested of its subject and scope, so as to enable them to decide whether interested and affected or not; by an examination of the title alone.

This title does not furnish such notice and is therefore in conflict with the section of the Constitution quoted.

In accordance with these views the indictment is quashed.

CYRUS GORDON, P. J.

Table "A."

Showing the number of fatal and non-fatal accidents and their cause.

Cause of Accidents.	Fatal.	Non-fatal.	Widows.	Orphans.
Falls of roof, slate and fire clay,	3	19		
Rolling slate,		1		
Falls of coal and roof,	1	2		
Falls of coal and bone coal,	1	1		
Falls of coal,		10		
Overcharged shot and ignition of coal dust,		1		
Caught by locomotives and mine cars,	1	2		
Caught by mine cars,		1		
Struck by flying stone from dynamite shot,		1		
Caught by machinery,		1		
Total,	6	38	4	14

It is here necessary to urge in connection with the suggestions in 1895 report, the importance of securing the working places with timber by posting in a systematic manner before the roof becomes unsafe, and also complying with the law as referred to in Article XXII, rule 12 to 15. The above report shows the necessity of having the coal securely spragged, and it should be the mine foreman's first duty to see that the workmen under his charge take every precaution for their own safety, and he is bound to see that the same is carried out or he is violating the law himself. The reason I mention this is to have them renew their energy in this direction, and see that accidents reported from falls of roof and coal cannot be a small percentage. It can be done if instead of giving an order and then walking away without further notice, the foreman compels the miner to at once secure the coal and roof for his own safety.

Table "B."

Showing quantity of coal mined, coke produced, number of persons employed in and about the mines, number of tons mined per fatal and non-fatal accident, together with powder consumed, number of days worked, etc.:

Total number of net tons mined,	3,809,472
Total number of net tons shipped,	3,804,249
Total number of net tons coke produced,	47,877
Total number of net tons mined per fatal accident,	634,912
Total number of net tons mined per non-fatal accident,	105,818.66
Number of persons employed inside of mines,	6,709
Number of persons employed outside of mines,	488
Total number of persons employed in and about the mines,	7,197
Number of days worked,	13,297.10
Average number of days worked in each mine,	151.03
Tons mined per employe,	529.30
Number of kegs of powder consumed,	17,624
Horses and mules employed,	739
Steam boilers,	82
Stationary engines, single and coupled,	78
Coke ovens,	196
Mines under provisions of the law during the year,	87
Total number of mines shipping coal, having from four to nine men employed,	15

Report of the Cottage State Hospital of Philipsburg, Pa.

It will be noticed in this report that the proportion of patients from the mines has increased during the past year, and the mortality rate which is only 3 3-5 per cent. is correspondingly low,

which is a good showing for the State institution and the officials in charge. The superintendent states that of the five deaths which occurred, two might have been prevented had the parties had prompt and efficient treatment before reaching the institution. Year by year the hospital is making such additions to its appliances for the treatment of its patients as tend toward obtaining the very best results in the shortest possible time.

Additions to house and grounds have also been made from time to time until the place now presents a very attractive appearance, but to be complete, it needs an attractive fence.

The bed capacity has been increased from 24 to 28 beds, and attendants, instead of two male, there are now a trained female nurse and one male attendant, which proves very satisfactory. Mary A. Fisher, superintendent.

Total number of patients treated during year, ...	139
Mine accidents, ...	71
Other members of miners' families, ...	26
Railroad employes, ...	5
Persons of other occupations, ...	37

Number of Deaths.

Miners, ...	3
From railroad accidents, ...	1
Woods man, ...	1
Total number deaths, ...	5
Number of patients remaining at end of year, ...	12

N. B.—Deaths of miners were all due to spinal injuries.

REPORT OF MINES IN CLEARFIELD COUNTY AND IMPROVEMENTS IN SAME.

Acme Mine.—This mine has been in very fair condition throughout the year, with 19,450 cubic feet of air in circulation. The fan is capable of producing a larger volume, but the air has found an escape way along gob falls, at the crop line work. David Jones, foreman.

Alexandria.—This mine has not been in operation during the year.

Atlantic No. 1.—This mine has been kept in good condition throughout the year, having 45,600 cubic feet of air in circulation, in four splits. The use of electric haulage was rather unsuccessful the first part of the year, both as regards to injury to employes in charge of and around the machinery, and the output of coal. But the system is now more thoroughly understood and is working successfully. Ben Badman, foreman.

Atlantic No. 2.—This mine was in operation the first part of the year only, but was always found in good condition, both in regard to drainage and ventilation; having 33,000 cubic feet of air in circulation in four currents. William Pollock, foreman.

Baltic No. 3.—On my last visit the mine was in very fair condition. Twelve thousand six hundred cubic feet of air was in circulation in two currents. A new shaft has been sunk nearer the working face in No. 9 right heading, and a small furnace built, cutting off the old work with surface falls and the long return to old furnace. George Hartshorn, foreman.

Champion.—A new drift has been opened during the year to recover coal that had been shut off by the closing of a section of the old drift. Two thousand eight hundred and forty cubic feet of air was in circulation by natural means, passing through a small shaft along the line of the old workings, which opening has been ordered to be enlarged and a furnace built to maintain more permanent ventilation, because on warm days the present method would be inefficient, and is only sufficient in cold weather for present number of men employed. Dan'l G. Jones, foreman.

Coaldale No. 3.—The ventilation of this mine has been very much scattered, but the mine was in a healthful condition throughout the year, with an average of 8,716 cubic feet in circualtion. The remaining coal is pillars and stumps of all sizes, cut up as much as possible to keep a good number of men employed, but having no solid coal to work on and is rapidly withdrawing. The foreman has been unable at all times to keep the mine in first class condition. David Philips, foreman.

Coaldale No. 5.—The ventilation of this mine depends on natural means for circulation, having passed the furnace shaft on the withdrawing of heading pillars, and depends on a small shaft nearer the drift and to the left of main drift for air. 4,080 cubic feet were measured on my last visit, which keeps the mine in a healthful condition for number of men employed at present. The drainage has not been as good as it should have been. Thos. W. Jones, foreman.

Colorado No. 1.—The ventilation of this mine has not at all times been in a good condition, but sufficient air has been in circulation to keep it healthful; 6,760 cubic feet was in circulation. The roadways were not properly drained as they count on the finishing of the mine in the near future. James Dunsmore, foreman.

Colorado No. 2.—On my last visit to this mine, 17,100 cubic feet of air was in circulation, and was poorly conducted to the working face by the contractor and foreman. The operators have now, however, put another man in charge and he is endeavoring to put the mine in good condition. The drainage was always good, be-

cause the extraction of the "D" seam below kept the upper strata dry. Jas. Gates, foreman.

Columbia No. 5.—This mine has not been under inspection except at intervals, and had only 1,700 cubic feet of air in circulation on my last visit, which kept the mine only in a fair condition for the number of men employed. Thos. Pilkington, foreman.

Colorado No. 3.—Has been in operation only a short time during the year and was found in good condition, with 24,660 cubic feet of air in circulation. Richard Morris, foreman.

Cuba Nos. 1 and 2.—These mines are connected and one is used as escape way for men employed. They were connected during the early part of the year, but have not been in operation very steadily. A natural current of 3,900 cubic feet of air was measured at drift inlet on my last visit. Drainage was good. Grant Watkins, foreman.

Donegal Mine.—Has been in operation a few weeks only during the first of the year.

Decatur No. 1.—Has been in very fair condition during the year, having 16,600 cubic feet of air in circulation in two splits. The drainage was in fair condition. John E. Hawkins, foreman.

Decatur No. 2.—Not in operation during the year.

Davis Mine.—The drift opening coal did not suit the operators, and in the latter part of the year a new slope was driven to connect with the "B" seam, but it is not yet completed.

Eureka No. 5.—Had an average of 38,000 cubic feet of air in circulation in three currents. The ventilation and drainage has been in good condition throughout the year. Considerable difficulty is encountered at face of main heading from the squeeze reported in 1894, but the area is diminishing with the retreat of pillar drawing.

An extra safeguard has been added by having the workings of the mine examined by a competent fire boss before the miners enter the mine each day, so that any indication of fire damp may be detected, but up to this time none has been found in the workings. Thos. D. Forsythe, foreman.

Eureka No. 7.—This mine has been in very fair condition during the year, both as regards drainage and ventilation, having a volume of 30,000 cubic feet in circulation in several currents. Thos. Estep, foreman.

Eureka No. 8.—Had 10,200 and 10,880 cubic feet of air in circulation in two currents; ventilation being in good condition and the drainage fair during the year. Joseph Wheatly, foreman.

Eureka No. 9¾.—Was in operation for several weeks but is at present idle. Donald Craig, foreman.

Eureka No. 12.—Has had an average of 30,000 cubic feet of air in circulation in three currents and has been found in very fair condition both as regards ventilation and drainage throughout the year. William Booth, foreman.

Eureka No. 13.—This mine has been kept in very fair condition during the year both as regards ventilation and drainage, having an average of 51,333 cubic feet of air in circulation in several currents. M. S. Blythe, foreman.

Eureka No. 14.—On my last visit to this mine a new traveling way had been made as requested earlier in the year, and the mine was found in very fair condition, with an average of 20,350 cubic feet of air in circulation in several currents. William Fitzgerald, foreman.

Eureka No. 15.—Has had an average of 5,690 cubic feet of air in circulation in one volume which is kept in fair circulation through the working parts of the mine. The drainage was rather deficient on haulage way. The mine has been finished since my visit Sept. 24. Charles Rodden, foreman.

Eureka No. 16.—Had a very fair volume of air at the furnace, but it was poorly conducted to the working faces, owing to the contractor trying to run the mine on the single heading system. The drainage has had very poor attention on the haulage ways. However, the mine will get due attention when in operation again, as the company has taken charge of their property. At this time it is indefinitely shut down. James McAlarney, foreman.

Eureka No. 18.—The ventilation of this mine has been kept in good condition throughout the year, and on my last visit a ditch 4 feet deep at the greatest grade, has done away with a two mule pump and drained off a large accumulation of water on haulage way. A volume of 32,000 cubic feet of air is in circulation in three currents. James Blade, foreman.

Eureka No. 19.—Has had a volume of 26,430 cubic feet of air in circulation and the mine has been in very fair condition during the year. James Gatehouse, foreman.

Eureka No. 20.—On my last visit to this mine the ventilation and drainage were in very fair condition, having an average of 25,733 cubic feet of air in circulation in three currents.

Eureka No. 22.—In my 1895 report of this mine I mentioned that the company was about to add a new fan to the equipment of the mine. It is a 12-foot diameter Stine, and on my last visit 182 revolutions of fan produced 88,200 cubic feet of air with 0.8 water gauge through a 70 foot area of mine opening. The fan would not produce a water gauge very much in excess of this, unless the orifice for the entrance of air was contracted sufficiently so as to not allow any

air entering the fan from the mine to be given off at the tip of the blade, and return to the mine. This mine is now in very good condition and the electric haulage is in successful operation. William Marshall, foreman.

Eureka No. 23.—A new drift has been added to this mine so as to make the haulage with electric locomotive more efficient, and adds a more complete traveling way for men employed, by having the first drift kept exclusively for that purpose. 22,275 cubic feet of air was in circulation in two good currents. Drainage was also good. John Carlan, foreman.

Eureka No. 24.—Throughout the year this mine has been kept in very fair condition, having good drainage, and an average volume of 16,200 cubic feet of air in circulation in one current. John Allen, foreman.

Eureka No. 25.—This mine has been kept in very fair condition during the year, having an average of 15,000 cubic feet of air in circulation in two currents. John McGowan, foreman.

Eureka No. 26.—This mine was not worked any during the latter part of the year, but was always found in good condition both as regards drainage and ventilation. Had 16,800 cubic feet of air in circulation in two volumes, which could be increased largely by increasing the speed of the fan which now runs very slowly. John Carlan, foreman.

Fairmount Mine.—Was kept in very fair condition during the year both as regard drainage and ventilation. A volume of 8,750 cubic feet of air was in circulation in one current. John P. Burns, foreman.

Gearhart.—On my last visit the drainage and ventilation were in very fair condition, having 10,000 cubic feet of air in circulation in two currents. A new shaft has been sunk nearer the working face which has brought the ventilation up to its present condition. It must be understood that this seam "E" overlies the Moshannon by a separating strata of about 30 feet and generally does not have more than 30 feet of strata above it. Where the "D" seam is worked out in the greater portion of the property below this cap seam, it is extremely difficult to keep the ventilation good at all times, except by continually making openings near the working face, because so many breaks or crevices are made in the strata by falls below. Richard Lobb, foreman.

Glenwood Nos. 1 and 2.—Had 18,000 and 10,000 cubic feet of air circulating around the working faces, and the mine, both in regards to drainage and ventilation, has been in good condition. Charles Paul, foreman.

Grampian No. 2.—Has not been constantly in operation, but was always found in good condition during the year both as regards drainage and ventilation. 6,400 cubic feet of air were measured at the furnace when the mine was not in operation and the furnace fire was extinguished. Richard Moran, foreman.

Grampian No. 1.—Has not been under inspection during the year, working only two to six men.

Guion.—Has been cleaned up and made ready for operation, but is at present idle.

Highland.—Has changed owners during the year and a new tipple has been built, a new drift opened five feet high, 7 foot sill, 5 feet 4-inch collar in the clear; the old drift is used as the traveling way, the original one having been allowed to close while not under inspection. James Jenicks, foreman.

Henderson, No. 2.—Has not been kept in very good condition, both drainage and ventilation having been somewhat neglected. Five thousand four hundred cubic feet of air were circulated by natural means when the volume would have been greater by using the furnace. Some of the workmen attempted to light it while I was at the face of the workings on my last visit, but only succeeded partially. It may not be possible to at all times keep it in good condition, but it could have been much better than on my last visit. Henry Lloyd, foreman.

Hereford.—Employs from two to six men only. The same may be said of Homestead.

Imperial.—On my last visit was in very fair condition, both as regards drainage and ventilation, having an average of 14,250 cubic feet of air in circulation. William Jenicks, foreman.

Jefferson.—Was found in good condition on my last visit. The ventilation has been improved by putting a new opening for air near the face of the sixth right heading which passes 13,200 cubic feet of air, and serves for an inlet. John C. Johnson, foreman.

Kentuck.—Has had a very fair volume of air in circulation for the number of men employed, having 6,400 cubic feet of air at the furnace. Drainage was also very fair. James Fleming, foreman.

Keck's Mine.—This mine has been kept in reasonably good condition during the year. An average volume of 2,000 cubic feet of air was kept in circulation in one current, which kept the mine in good condition. A small number of men are employed on two shits, the mine being nearly finished. Drainage was also in very fair condition. H. S. Overly, foreman.

Leader No. 3.—Has been in operation very little during the year, however, when in operation the ventilation was in a healthful con-

dition, having 5,440 cubic feet of air in circulation entering the drift. There are so many breaks through the strata to the surface that a volume of air could not be circulated in one continuous current, owing to the surface falls while withdrawing pillars. John O'Rorke, foreman.

Leader No. 4.—Is a new opening, drift size 7-feet sill, 5-foot collar and 5 feet vertical height. The mine was opened the early part of the year and the coal to be mined is along a crop line, that has been left in from old Logan mine, which of course, cannot make a very extensive operation. A natural current of 6,425 cubic feet of air was measured at an upcast shaft, but was not conducted sufficiently near the working faces, but as they have notified me since my visit that they had complied with my request to put up a door and stop leaks in overcast and brattice, it should now be in good condition. John O'Rorke, foreman, is alternately transferred from No. 3 to this mine, they being in operation alternately.

Lancashire No. 1.—This mine has had an average of 12,000 cubic feet of air in circulation but it was scattered in small currents before reaching the working faces, owing to old standing wood brattices becoming leaky, the mine being very extensive and few pillars withdrawn, but it was kept in a healthful condition. Richard Ashcroft, foreman.

Lancashire No. 2.—The ventilation of this mine has been found in very fair condition during the year, with an average volume of 9,834 cubic feet of air in circulation in two currents. Drainage was also kept in fair condition in working places. Matthew Dixon, foreman.

Leland.—On my several visits to this mine it was found in good condition for the number of men employed. The drainage was reasonably good and an average volume of 22,450 cubic feet of air was in circulation, being conducted to the face of main before splitting, afterward being divided on its return in several currents. D. D. Lewis, foreman.

Lorraine.—The condition of this mine has been improved by driving a water course to drain off water on road ways and to be used as a traveling way. Having to depend on natural ventilation for air, the volume was at times small on account of the temperature in side and outside of mine being nearly equal. G. Gould, foreman.

Lenore.—On my last visit I measured 7,130 cubic feet of air at the furnace and it was conducted through the mine in one current. The ventilation and drainage were in very fair condition. Jonathan Hutchinson, foreman.

Lane Nos. 1 and 2.—The ventilation of these mines has been greatly improved by repairing the furnace in No. 1 to cause the air

to pass over the furnace fire, thus raising the temperature and putting a volume of 7,800 cubic feet of air in circulation. A new furnace has been built in No. 2 drift 6½x3½ feet above bars and six feet length of bars, and also a small shaft sunk. 10,130 cubic feet of air was measured on my last visit. The mines are now in good condition. Samuel Sykes, foreman.

Meadowbrook.—This mine is kept in very fair condition both as regards drainage and ventilation, having 10,500 cubic feet of air circulated in two currents through the mine. Joseph Higham, foreman.

Mabel.—The furnace of this mine is of insufficient capacity to cause the necessary volume of air to circulate through the mine. Nine thousand seven hundred cubic feet was the average volume reaching the working face but it had scarcely any force or velocity. I have requested the company to enlarge the furnace and change the shape of its construction, or use a mechanical ventilator which they have taken from their shaft mine, replacing it by a higher speed one, and I am led to believe the company will make the necessary improvement. Drainage was in good condition. Daniel Campbell, foreman.

Mapleton.—Is kept in fair condition both as regards drainage and ventilation. 9,000 cubic feet of air was the average volume in one current. Thomas Duggan, foreman.

Morrisdale Shaft.—This mine was at all times kept in very fair condition. The ventilation being conducted through the mine in several currents; total volume being 72,000 cubic feet. This seam of coal requires considerable blasting, which causes a continuous volume of smoke to be given off from the shots, forty-nine and two-thirds net tons of powder having been used during the year. The Shaw machine in use in this office was used to test the atmosphere of a large number of places, taking the most remote places in the mine where pillar withdrawing was in progress, and heading work. Not the least trace of fire damp could be discovered, and the highest mixture of carbonic acid gas was taken from a gob fall near the floor of the pillar and it had only 2 per cent. (CO^2) taken at a point at least 15 feet behind where the men were at work. A large number of men work on night shift. James Stafford, foreman; Robert Cole, assistant foreman.

Mount Vernon No. 4.—The drainage of this mine was in fair condition, the ventilation good, with an average of 19,160 cubic feet of air circulating in three currents through the mine. John May, foreman.

Mount Vernon No. 6.—The genral condition of this mine has been very fair during the year, both as regards drainage and ventilation, it having an average volume of 31,130 cubic feet of air in circulation,

which is divided into two main currents. James S. Campbell, foreman.

Mount Vernon No. 7. Was not in operation during the year. Nor was Mount Vernon No. 8.

Midvale.—A small mine taking outcrop coal left by another operator, which was, however, kept in very fair condition, having a natural current of 8,550 cubic feet of air in circulation on my last visit. Ed. L. Shell, foreman.

Montana.—Does not come under the provisions of the law.

Ocean No. 2.—Mine is rapidly withdrawing, and may be expected to be finished in the next year unless other coal may be secured. Twenty-eight thousand five hundred cubic feet of air was in circulation. Drainage unavoidably deficient. William Delves, foreman.

Pardee No. 2.—Mine was at all times kept in good condition both as regards drainage and ventilation. An average of 52,200 cubic feet of air was in circulation from two furnaces, in four currents. William Sheldon, foreman.

Parks Mine.—Was kept in very fair condition the past year, but as the work extends, a permanent furnace or other means will be needed for ventilation. A volume of 5,880 cubic feet of air was measured at the upcast shaft. Drainage was very fair. John W. Baker, foreman.

Queen.—This mine did not come under the provisions of the law during the year.

Reading Mine.—Has not been worked very steadily during the year, but when in operation it was in fair condition both as regards drainage and ventilation, having 4,305 cubic feet of air in circulation. Cornelius Maher, foreman.

Red Jacket.—Mine was in fair condition when in operation, having 4,600 cubic feet of air in circulation, but the owners have indefinitely shut down owing to the sand rock roof and to the coal thinning out to 22 inhes. E. F. Townsend, foreman.

Schwin No. 3.—This mine is working along a crop line taking out coal left by other operations, so that there is no space for the necessary openings. Each fall makes large openings to the surface, and while there has been no definite current, the atmosphere was healthful but the escape way and drainage could have been kept in better condition. William Devlin, foreman.

Schwin No. 4.—The number of mines credited to this company seems large compared with the output, but each opening has only crop coal to work on, and it is easier to make a new drift than follow the crop line where falls intervene. Had a volume of 40,880 and 1,320 cubic feet of air in circulation, but it was not kept circulating near the working face, owing to the uncertainty of a continuance of

coal, but the operator has promised a better circulation in the future. John Farrel, foreman.

Troy.—Came under the law only a few weeks during the first part of the year but was at all times in a healthful condition.

Union Mine.—Has had natural ventilation but the operator has promised a better method for the future. Three thousand cubic feet of air were measured at the drift inlet; this is hardly sufficient for the number of men employed, yet the mine was in a healthful condition. Drainage was very fair. John Milsom, foreman.

Victor No. 1.—When in operation was kept in a healthful condition, having 4,429 cubic feet of air circulating through the working places. The mine is now finished. William Dunsmore, foreman.

Victor No. 2.—This mine had 2,600 cubic feet of air in circulation which was rather insufficient, but as the mine was nearly worked out it was impossible to maintain a greater current. The mine is now abandoned. Richard Ashcroft, foreman.

Webster No. 4.—Has been in operation very little during the year, but on my visits a natural current of 14,150 cubic feet of air was in circulation through the mine. Drainage was in fair condition. John Stoker, foreman.

Whiteside.—This mine was a source of considerable trouble during the year. The mine came under the provisions of the law for the first time during the year some time in May. On July 3d I visited the mine and found that they had only one escape way for the men working in the mine, and 29 men were employed, which is contrary to article 2, sections 1 and 2 of the Bituminous Mine law of Pennsylvania. The furnace in use was simply a few iron rails set in the natural coal strata and no protection wall of non-combustible material existed. The furnace was thus in contact with the coal strata rendering ignition of the coal seam possible, and no attendant was constantly employed to look after it. I ordered the furnace fire to be extinguished until the necessary improvements had been made, and all men in excess of 20 taken out of the mine. See report of case in my communication to Secretary of Internal Affairs. D. D. Jones, foreman.

Centre County Mines.

Black Diamond.—Had not any surplus air circulating, but was in fair condition on my last visit both as regards drainage and ventilation. Had an average of 6,000 cubic feet of air circulating, but it was somewhat scattered before reaching working faces. John O'Neil, foreman.

Central Mine.—Was found in very fair condition during the year, both in regards to drainage and ventilation, having an average volume of 5,800 cubic feet of air circulating through the working places. James Sommerville, foreman.

Electric Mine.—Was in very fair condition during the year both as regards drainage and ventilation, having had on my last visit 16,000 cubic feet of air circulating, but it was divided up in too many currents, thus depriving it of the necessary force to remove any noxious gases that might be given off from blasting or otherwise. William S. Edwards, foreman.

Eureka No. 21.—Was at all times well cared for during the year. Overcasts have replaced doors where necessary. The floor of the mine is very soft, and the water given off makes it difficult to keep the roadways dry. The air has been kept in good circulation in three currents with a total volume of 27,418 cubic feet at the furnace. Foreman, William Pollock, from Atlantic No. 2 mine, who has been placed in charge since the suspension of that mine.

Ghem Mine.—Has not been in operation very steadily during the year, but when working was in very fair condition. The roadways on main entrance and traveling way have been considerably improved in drainage, and an average volume of 11,250 cubic feet of air was circulated in two currents through the mine. Samuel Pfoutz, foreman.

Orient.—Has been found in very fair condition during the year both as regards drainage and ventilation, having an average of 11,634 cubic feet of air circulating through the workings in one current. Samuel Twig, foreman.

Phoenix Mine.—The owners and officials of this mine have been trying hard to bring the ventilation up to the standard requirements and have nearly succeeded. On my last visit, a shaft 5x5 and 62 feet deep had been sunk to the coal and a heading driven in the coal strata a distance of 746 feet to connect with it, which was within 25 feet of being connected at that time, Dec. 19th. Since then I have been informed that a small connection eight feet square had been made passing 4,500 cubic feet of air, which volume will be largely increased when the furnace is put into the shaft bottom. Drainage of this mine is very good. John Howard, foreman.

Ophir Mine has not been in operation during the year.

Bear Run Mine.—This is a new mine, having commenced the shipment of coal on August 27th. It is a drift opening, 7-foot collar, 8-foot sill and 6 feet vertical height. A traveling way parallel with main drift is of the same size. It is on "D" seam of coal, having an air shaft 7x7 feet and 56 feet deep from top of air stack. Furnace is not yet completed. An incline plane is in use to convey the coal by gravity to the tipple below, pitching at an angle of 24 feet, and it is 750 feet long. Other buildings are all substantial and are built of wood. 9,450 cubic feet of air were in circulation by natural means. The drainage was also in good condition. John Quinn was in charge of construction and is foreman.

Report of Mines in Jefferson County.

Summit Mine.—Was found in very fair condition with 5,400 cubic feet of air in circulation, which was a good volume for existing conditions and number of men employed. Isaac Smith, foreman.

West Eureka No. 1.—Worked a few weeks only at the early part of the year, but was in good condition, having 13,600 cubic feet of air circulating, with power for a larger increase if necessary.

West Eureka No. 2.—Was finished in the month of February. Foreman, D. Jones.

West Eureka No. 4.—This mine was kept in good condition until the breaking of the fan shaft in November. Previous to that time 70,800 cubic feet of air were constantly passing through the mine workings. Since the accident a temporary furnace has been in use, while the broken fan is being replaced with the fan from No. 2 mine. The furnace gives 19,170 cubic feet of air. Old fan, 20 feet diameter, 5 foot shaft and 8 feet 7 inches between supports, which is too small for the force it had to maintain. The one replacing it is 20 feet in diameter, 8 inch diameter shaft. Foreman, Henry W. Moore.

West Eureka No. 5.—On my last visit had 23,390 cubic feet of air in circulation through the mine, part of the current was taken from the No. 1 mine fan, and entered the mine near the face of Tioga heading. Drainage was in very fair condition. Joseph Williams. foreman.

West Eureka No. 6.—Was kept in very fair condition both as regards drainage and ventilation, and had an average of 45,200 cubic feet of air circulating through the mine in several currents. Six new Harrison mining machines have been added to the plant. Thomas Morgan, foreman.

West Eureka No. 10.—This mine has been greatly improved. A rope haulage is being put in the mine and two large steam boilers erected; a 10 foot Stine fan with one tubular steam boiler was erected at a new drift 60 feet area to ventilate the mine, which will keep it in good condition. E. F. Reese, foreman.

Test of Stine fan, 56,353 cubic feet of air with 5 foot water gauge when running 180 revolutions of fan.

West Eureka No. 11.—Has been in good condition during the year, having 50,167 cubic feet of air in circulation in two main splits also several sub-splits. A double set of patent doors have been put in this mine on trial for one year. When the doors were completed and reported in good condition I measured a loss of 2,800 cubic feet of air through them, and since my visit the foreman reported that they came near having what might have been a serious accident; the doors are in two parts pointing in a "v" shape towards the loaded route, and when the driver approached with a loaded

trip and was in front of first car, the doors failed to act owing to the bending of a lever, and the mule and driver were forced together against the pointed doors. They have discontinued its use, and are satisfied to pay the contract price and leave the door idle rather than run the risk of injuring any person. Possibly the mechanical arrangements were not complete, but the contract calls for the owners of the patent to construct and keep them in repair. Daniel Thomas, foreman.

West Eureka No. 12.—Has been kept in good condition both as regards drainage and ventilation, having an average of 46,602 cubic feet of air circulating through the mine in several currents. James Woods, foreman.

West Eureka No. 13.—Has not come under inspection during the year.

TABLE No. 1.—Showing location, etc., of collieries in the Eighth Bituminous Mine District.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Postoffice Address.
Acme,	O. P. Jones,	Clearfield,	O. P. Jones,	Philipsburg.
Alexandra,	Thos. Blythe & Co.,	Clearfield,	Thos. Blythe,	Madera.
Atlantic No. 1,	Berw'nd White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Atlantic No. 2,	Berw'nd White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Baltic Nos. 1 and 3,	Baltic Coal Co.,	Clearfield,	J. T. Slinger,	Philipsburg.
Bear Run,	Freeman Wilson Coal Co.,	Centre,	John Quinn,	Houtzdale.
Black Diamond,	Robt. A. Jackson,	Centre,	Robert A. Jackson,	Osceola Mills.
Champion,	John and Thos. Lobb,	Clearfield,	John and Thos. Lobb,	Brisbin.
Coaldale No. 3,	O. P. Jones,	Clearfield,	O. P. Jones,	Philipsburg.
Coaldale No. 5,	O. P. Jones,	Clearfield,	O. P. Jones,	Philipsburg.
Colorado No. 1,	Bloomington Coal Co.,	Clearfield,	Wm. G. Dunsmore,	Philipsburg.
Colorado No. 2,	Elsworth & Dunham,	Clearfield,	E. H. Elsworth,	Philipsburg.
Colorado No. 3,	Jackman & Atherton,	Clearfield,	David Atherton,	Philipsburg.
Columbia No. 5,	J. L. Mitchell,	Clearfield,	J. H. Crain,	Osceola Mills.
Cuba Nos. 2 and 3,	Stratton Bros.,	Clearfield,	J. L. Stratton,	Philipsburg.
Central,	Thos. C. Heims,	Centre,	Thos. C. Heims,	Osceola Mills.
Decatur No. 1,	John Nuttal & Co.,	Clearfield,	John Nuttal,	Philipsburg.
Decatur No. 2,	John Nuttal & Co.,	Clearfield,	John Nuttal,	Philipsburg.
Donegal,	P. Gallagher,	Clearfield,	P. Gallagher,	Osceola Mills.
Davis Mine,	Davis Coal Co.,	Clearfield,	Henry Whitmore,	West Decatur.
Electric,	Thos. C. Heims,	Centre,	Thos. C. Heims,	Osceola Mills.
Eureka No. 5,	Berwind White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Eureka No. 7,	Berwind White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Eureka No. 8,	S. J. Mountby & Co.,	Clearfield,	John Forsythe,	Morann.
Clearmont,	G. T. Newton & Co.,	Clearfield,	S. J. Mountby,	Morann.
Eureka No. 12,	Berwind White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Eureka No. 13,	Berwind White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Eureka No. 14,	Berwind White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Eureka No. 15,	Berwind White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Eureka No. 16,	Berwind White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Eureka No. 18,	Berwind White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Eureka No. 19,	Berwind White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Eureka No. 20,	Berwind White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Eureka No. 21,	Berwind White Coal Mining Co.,	Centre,	A. S. R. Richards,	Osceola Mills.
Eureka No. 22,	Berwind White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Eureka No. 23,	Berwind White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Eureka No. 24,	Berwind White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Eureka No. 25,	Berwind White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Eureka No. 26,	Berwind White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Fairmont,	Morris Liveright,	Clearfield,	Henry Liveright,	Osceola Mills.
Ghem,	Ghem Coal Company,	Centre,	Samuel E. Pfoutz,	Osceola Mills.
Gearhart,	Thos. Lee & Co.,	Clearfield,	Thos. J. Lee,	Philipsburg.
Glenwood Nos. 1 and 2,	Williams, Morris & Co.,	Clearfield,	C. Campbell,	Philipsburg.
Grampian No. 1,	R. C. Fishburn & Co.,	Clearfield,	R. C. Fishburn,	Munson Station.

Grampian No. 2	R. C. Fishburn & Co.,	Clearfield,	R. C. Fishburn,	Munson Station.
Guion,	Sanford & Duncan,	Clearfield,	Wm. Duncan,	Philipsburg.
Highland,	O. P. Jones,	Clearfield,	O. P. Jones,	Philipsburg.
Henderson No. 1,	Delong & Gould,	Clearfield,	J. DeLong,	Brisbin.
Henderson No. 2	Delong & Gould,	Clearfield,	J. DeLong,	Brisbin.
Homestead,	Reese Bros.,	Clearfield,	S. Reese,	Philipsburg.
Herreford,	D. H. Hughes,	Clearfield,	D. H. Hughes,	931 Chestnut st., Philad'a.
Imperial,	R. L. Scott & Co.,	Clearfield,	Robt. L. Scott,	Philipsburg.
Jefferson,	Adams & Co.,	Clearfield,	Geo. B. Friday,	Philipsburg.
Kentuck,	Philipsburg Bituminous Coal Co.,	Clearfield,	David Fleming,	Philipsburg.
Keeks,	Keck Coal Co.,	Clearfield,	H. S. Overly,	Woodland.
Montana,	J. Swires & Co.,	Clearfield,	J. Swires,	Philipsburg.
Lancashire No. 1,	Thos. Barnes & Bro.,	Clearfield,	Thos. Barnes,	Philipsburg.
Lancashire No. 2,	Thos. Barnes & Bro.,	Clearfield,	Thos. Barnes,	Philipsburg.
Leland,	Cambria Coal Mining Co.,	Clearfield,	Elijah Brubaker,	Smoke Run.
Leader Nos. 3 and 4,	Richard Hughes,	Clearfield,	H. M. Hughes,	Osceola Mills.
Loraine and Ferndale,	Reakirt Bros. & Co.,	Clearfield,	G. Gould,	Brisbin.
Lane Nos. 1 and 2,	Fred. C. Todd & Co.,	Clearfield,	Fred. C. Todd,	Philipsburg
Lenore,	Thos. C. Heims & Co.,	Clearfield,	Thos. C. Heims,	Osceola Mills.
Mabel,	S. V. Davis & Co.,	Clearfield,	S. V. Davis,	Beccaria.
Meadowbrook,	H. C. Cook & Co.,	Clearfield,	H. J. Cook,	Philipsburg.
Mapleton,	P. Gallagher,	Clearfield,	P. Gallagher,	Osceola Mills.
Morrisdale shaft,	Morrisdale Coal Co.,	Clearfield,	Jas. E. Hedding,	Morrisdale Mines.
Mt. Vernon No. 4,	United Colliery Co.,	Clearfield,	Jas. Denithorne,	Huntington.
Mt. Vernon No. 6,	United Colliery Co.,	Clearfield,	Jas. Denithorne,	Huntington.
Mt Vernon No. 7,	United Colliery Co.,	Clearfield,	Jas. Denithorne,	Huntington.
Mt. Vernon No. 8,	United Colliery Co.,	Clearfield,	Jas. Denithorne,	Huntington.
Midvale No. 1,	Geo. & William Lobb,	Clearfield,	Geo. Lobb,	Brisbin.
Midvale No. 2,	Geo. & William Lobb,	Clearfield,	Geo. Lobb,	Brisbin.
Ocean No. 2,	Berwind White Coal Mining Co.,	Clearfield,	A. S. R. Richards,	Osceola Mills.
Ophir,	Hoyt & Ashman,	Centre,	A. V. Hoyt,	Philipsburg.
Orient,	Blair Bros.,	Centre,	L. B. Blair,	Tyrone.
Pardee No. 2	Bloomington Co.,	Clearfield,	W. G. Dunsmore,	Philipsburg.
Phoenix,	Morris Liveright,	Centre,	Henry Liveright,	Osceola Mills.
Parks,	Woodland Firebrick Co.,	Clearfield,	H. M. Kennedy,	Woodland.
Queen,	Cambria Coal Co.,	Clearfield,	Elijah Brubaker,	Smoke Run.
Reading,	Penn Iron Co., Limited,	Clearfield,	Cornelius Maher,	Osceola Mills.
Red Jacket,	Hoyt & Lytle,	Clearfield,	A. V. Hoyt,	Philipsburg.
Sterling No. 1,	Ashland Coal Co.,	Clearfield,	Wm. Curran,	Houtzdale.
Sterling No. 2,	M. & F. Craig,	Clearfield,	M. Craig,	Brisbin.
Sterling No. 3,	M. T. & H. Craig,	Clearfield,	M. Craig,	Brisbin.
Schwinn No. 3,	H. Schwinn,	Clearfield,	H. Schwinn,	Houtzdale.
Schwinn No. 4,	H. Schwinn,	Clearfield,	H. Schwinn,	Houtzdale.
Summit,	Summit Coal Co.,	Jefferson,	Isaac Smith,	Winslow.
Troy,	Morrisdale Coal Co.,	Clearfield,	Jas. E. Hedding,	Morrisdale Mines.
Union Mine	Brown & Dwire,	Clearfield,	Martin Duggan,	Osceola Mills.
Victor No. 1	Bloomington Coal Co.,	Clearfield,	W. G. Dunsmore,	Philipsburg
Victor No. 2,	Thos. Barnes,	Clearfield,	J. T. Slinger,	Philipsburg
West Eureka No. 1	Berwind White Coal Mining Co.,	Jefferson,	A. J. Cook,	Horatio.
West Eureka No. 2	Berwind White Coal Mining Co.,	Jefferson,	A. J. Cook,	Horatio.
West Eureka No. 4	Berwind White Coal Mining Co.,	Jefferson,	A. J. Cook,	Horatio.
West Eureka No. 5	Berwind White Coal Mining Co.,	Jefferson,	A. J. Cook,	Horatio.
West Eureka No. 6	Berwind White Coal Mining Co.,	Jefferson,	A. J. Cook,	Horatio.

Table No. 1.—Continued.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Postoffice Address.
West Eureka No. 10.	Berwind White Coal Mining Co.,	Jefferson,	A. J. Cook,	Horatio.
West Eureka No. 11.	Berwind White Coal Mining Co.,	Jefferson,	A. J. Cook,	Horatio.
West Eureka No. 12.	Berwind White Coal Mining Co.,	Jefferson,	A. J. Cook,	Horatio.
West Eureka No. 13.	Berwind White Coal Mining Co.,	Jefferson,	A. J. Cook,	Horatio.
Webster No. 4.	Beulah Coal Mining Co., Limited,	Clearfield,	J. H. Minds,	Ramey.
Whiteside No. 1,	Simindiger, Burns & Co.,	Clearfield,	Michael Burns,	Brisbin.

TABLE No. 2.—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the Eighth Bituminous Mining District, for the year ending December 31, 1896.

Names of Collieries.	Location—County.	Total production in tons of coal.	Total production in tons of coke.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Stationery engines or mine locomotives.	Number coke ovens.
Acme	Clearfield	119,940	.....	118,190	274.00	171	.....	.....	800	6	13	1	.....
Atlantic No. 1	Clearfield	191,357	.....	188,420	264.50	233	1	3	461	4	7	15	.....
Atlantic No. 2	Clearfield	60,809	.....	59,886	80.75	158	.....	1	.....	6	24	3	.....
Baltic Nos. 1 and 3	Clearfield	68,325	.....	68,325	228.00	115	.....	.....	685	.....	20	.....	.....
Bear Run	Centre	2,948	.....	2,638	70.00	25	.....	1	30	.....	1	.....	.....
Black Diamond	Centre	27,961	.....	27,961	170.00	72	.....	1	.....	.....	8	.....	.....
Champion	Clearfield	4,815	.....	4,815	90.00	22	.....	.....	25	.....	2	.....	.....
Coaldale No. 3	Clearfield	48,285	.....	47,760	159.00	77	.....	1	300	2	10	1	.....
Coaldale No. 5	Clearfield	20,365	.....	20,365	162.00	32	.....	1	90	.....	6	.....	.....
Colorado No. 1	Clearfield	32,241	.....	32,241	229.00	36	.....	.....	201	.....	3	.....	.....
Colorado No. 2	Clearfield	22,953	.....	22,953	120.00	63	.....	.....	150	.....	4	.....	.....
Colorado No. 3	Clearfield	5,009	.....	5,009	53.00	26	.....	.....	50	1	11	1	.....
Columbia No. 5	Clearfield	6,591	.....	6,591	180.00	10	.....	.....	74	.....	1	.....	.....
Cuba Nos. 2 and 3	Clearfield	6,156	.....	6,156	117.00	11	.....	.....	24	.....	2	.....	.....
Central	Centre	17,631	.....	17,631	142.00	42	.....	.....	70	.....	3	.....	.....
Decatur No. 1	Clearfield	38,014	.....	37,658	97.00	92	.....	.....	.....	.....	18	.....	.....
Donegal*	Clearfield	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Davis Mine*	Clearfield	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Electric	Centre	16,647	.....	16,647	84.00	73	.....	.....	65	.....	5	.....	.....
Eureka No. 5	Clearfield	126,834	.....	122,789	194.50	177	1	1	97	6	40	5	.....
Eureka No. 7	Clearfield	84,154	.....	82,687	118.50	174	.....	6	195	3	21	3	.....
Eureka No. 8	Clearfield	4,256	.....	4,256	50.00	25	.....	.....	.....	.....	2	.....	.....
Eureka No. 9½	Clearfield	1,002	.....	1,002	40.00	48	.....	.....	.....	.....	3	.....	.....
Eureka No. 12	Clearfield	104,423	.....	104,423	283.25	124	.....	.....	480	.....	10	.....	.....
Eureka No. 13	Clearfield	109,924	.....	109,924	243.75	178	.....	.....	410	1	13	1	.....

Table No. 2.—Continued.

Names of Collieries.	Location—County.	Total production in tons of coal.	Total production in tons of coke.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Stationery engines or mine locomotives.	Number coke ovens.
Eureka No. 14,	Clearfield,	54,953		54,840	114.00	128			402	1	14	1	
Eureka No. 15,‖	Clearfield,	31,045		31,045	214.00	48			125	1	5	2	
Eureka No. 16,	Clearfield,	75,349		75,349	146.50	154		1	325	1	16	1	
Eureka No. 18,	Clearfield,	77,143		76,853	163.00	119			120		26		
Eureka No. 19,	Clearfield,	97,334		96,809	261.75	139			505	1	11	1	
Eureka No. 20,	Clearfield,	99,783		99,655	269.50	117			506		8		
Eureka No. 21,	Centre,	78,244		78,035	262.50	117			634		16		
Eureka No. 22,	Clearfield,	149,751		148,799	177.00	299		2	346	3		6	
Eureka No. 23,	Clearfield,	27,680		27,142	280.75	62			202	2		2	
Eureka No. 24,	Clearfield,	28,850		28,638	126.50	55			12		8		
Eureka No. 25,	Clearfield,	25,958		25,958	259.00	37			120		5		
Eureka No. 26	Centre,	7,528		7,194	160.00	25		1	45				
Fairmont,	Clearfield,	10,324		10,324	84.00	31			80		3		
Ghem,	Centre,	13,503		13,476	108.50	32			48		4		
Gearhart,	Clearfield,	37,491		37,362	125.00	111		1	150		5		
Glenwood Nos. 1 and 2,	Clearfield,	46,504		46,504	150.00	66			122		8		
Grampian No. 1,	Clearfield,												
Grampian No. 2,	Clearfield,	15,082		14,743	94.00	42			145		1		
Highland,	Clearfield,	3,610		3,445	47.00	19			15		3		
Henderson No. 1,*	Clearfield,	4,687		4,687	98.00	12			15		1		
Henderson No. 2,	Clearfield,	11,246		11,246	148.00	28			40		2		
Imperial,	Clearfield,	26,550		26,550	114.00	93			100		8		
Jefferson,	Clearfield,	24,214		24,054	147.00	52			75		4		
Kentuck,	Clearfield,	10,000		10,000	80.00	38			90		3		
Kecks,	Clearfield,	18,375		18,375	240.00	31					5		
Leader No. 1,*	Clearfield,												
Leader Nos. 3 and 4,†	Clearfield,	20,000		20,000	115.00	29			100		4		
Lancashire No. 1,	Clearfield,	57,029		57,029	166.00	130			575		23		
Lancashire No. 2,	Clearfield,	40,286		40,286	198.00	60		2	400		8		

Leland and Queen,	Clearfield,	43,133	.....	43,133	140.00	100	.....	.....	.....	1	7	1	.....
Lorraine and Ferndale,	Clearfield,	16,204	.....	16,204	63.00	41	.....	1	30	.....	4	.....	.....
Lane Nos. 1 and 2,	Clearfield,	24,269	.....	24,269	115.00	60	.....	.....	102	.....	1	.....	.....
Lenore,	Clearfield,	9,501	.....	9,501	83.00	51	.....	.....	40	.....	3	.....	.....
Mabel,	Clearfield,	30,000	.....	30,000	250.00	91	1	.....	150	.....	4	.....	.....
Meadowbrook,	Clearfield,	11,284	.....	10,976	187.00	27	.....	.....	105	.....	2	.....	.....
Mapleton,	Clearfield,	11,215	.....	11,215	200.00	11	.....	.....	45	.....	5	.....	.....
Morrisdale shaft,	Clearfield,	357,297	34,645	301,111	278.00	673	2	6	1,990	7	47	9	106
Mt. Vernon No. 4,	Clearfield,	15,318	.....	143,631	72.00	106	.....	.....	.....	2	6	2	.....
Mt. Vernon No. 6,	Clearfield,	72,858	.....	71,057	215.00	130	.....	.....	.....	5	15	1	.....
Midvale No. 1,	Clearfield,	8,000	.....	8,000	109.00	26	.....	.....	50	.....	1	.....	.....
Montana,	Clearfield,	6,000	.....	6,000	152.00	18	.....	.....	.....	.....	4	.....	.....
Ocean No. 2,	Clearfield,	87,366	.....	84,028	207.00	128	.....	2	.....	9	30	8	.....
Orient,	Centre,	39,412	.....	32,122	246.00	47	.....	.....	300	.....	11	.....	.....
Pardee No. 2,	Clearfield,	129,937	.....	129,937	221.00	178	.....	2	637	2	18	1	.....
Phoenix,	Centre,	13,864	.....	.....	304.00	24	.....	.....	61	.....	3	.....	.....
Parks,	Clearfield,	22,584	.....	.....	302.00	33	.....	.....	.....	.....	1	1	.....
Reading,	Clearfield,	11,266	.....	11,266	134.00	34	1	.....	47	.....	5	.....	.....
Red Jacket,||	Clearfield,	4,789	.....	4,789	97.00	45	.....	.....	50	1	2	1	.....
Sterling No. 1,	Clearfield,	14,749	.....	14,549	135.00	43	.....	1	80	.....	7	.....	.....
Sterling No. 2,	Clearfield,	13,296	.....	13,296	90.00	23	.....	.....	60	.....	2	.....	.....
Sterling No. 3,†	Clearfield,	730	.....	730	20.00	9	.....	.....	3	.....	1	.....	.....
Schwinn No. 3,	Clearfield,	8,050	.....	6,150	170.00	44	.....	.....	60	.....	4	.....	.....
Schwinn No. 4,	Clearfield,												
Summit,	Jefferson,	9,183	.....	.....	265.00	11	.....	.....	53	.....	2	.....	.....
Troy,	Clearfield,	6,930	.....	6,930	150.00	19	.....	.....	61	.....	2	.....	.....
Union,	Clearfield,	14,192	.....	14,192	121.00	30	.....	.....	100	.....	3	.....	.....
Victor No. 1,||	Clearfield,	14,093	.....	14,092	173.00	29	.....	1	117	.....	4	.....	.....
Victor No. 2,||	Clearfield,	15,766	.....	15,766	14.00	42	.....	.....	150	.....	3	.....	.....
West Eureka No. 1,‡	Jefferson,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
West Eureka No. 2,||	Jefferson,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
West Eureka No. 4,	Jefferson,	65,493	.....	65,493	102.50	132	.....	.....	924	3	17	2	.....
West Eureka No. 5,	Jefferson,	94,722	.....	94,722	140.00	152	.....	1	876	8	20	3	.....
West Eureka No. 6,	Jefferson,	122,967	13,232	122,967	144.50	139	.....	.....	900	5	13	2	90
West Eureka No. 10,	Jefferson,	75,207	.....	75,207	116.50	146	.....	.....	360	.....	20	.....	.....
West Eureka No. 11,	Jefferson,	135,648	.....	135,648	102.50	186	.....	.....	445	.....	16	.....	.....
West Eureka No. 12,	Jefferson,	41,868	.....	41,868	42.60	155	.....	.....	152	.....	13	.....	.....
West Eureka No. 13,‡	Jefferson,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Webster No. 4,	Clearfield,	42,741	.....	42,291	79.75	138	.....	.....	270	1	14	2	.....
Whiteside No. 1,	Clearfield,	6,381	.....	6,381	96.00	18	.....	.....	42	.....	1	.....	.....
Total,		3,809,472	47,877	3,804,249	13,297.10	7,197	6	36	17,624	82	739	78	196

‡ Mines not in operation during the year. † New mines. || Mines abandoned. * Mines working fewer than 10 men.

TABLE No. 3.—Showing the number of each class of employes at each colliery in the Eighth Bituminous Mine District, during the year 1896.

Name of Collieries.	Location—County.	Number of Persons Employed Inside.							Number of Persons Employed Outside.						
		Inside foreman or mine boss.	Miners—Men.	Miners—Boys.	All company men.	Drivers and runners.	Doorboys and helpers.	Total inside.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All company men.	Superintendents, bookkeepers and clerks.	Total outside.	Grand totals—inside and outside.
Acme,	Clearfield,	1	110	29	3	6	5	154	3	4	4	5	1	17	171
Atlantic No. 1,	Clearfield,	1	191	7	9	12	2	212	3	5	1	4	3	21	233
Atlantic No. 2,	Clearfield,	1	128	9	3	7	.....	148	1	2	1	4	2	10	158
Baltic Nos. 1 and 3,	Clearfield,	1	90	10	2	5	2	110	1	.....	.....	2	2	5	115
Bear Run,	Centre,	1	19	1	.....	1	.....	22	.....	.....	.....	1	2	3	25
Black Diamond,	Centre,	1	45	10	3	6	3	68	1	.....	.....	1	2	4	72
Champion,	Clearfield,	1	13	1	2	2	.....	19	1	.....	.....	1	1	3	22
Coaldale No. 3,	Clearfield,	1	50	11	2	5	1	70	1	2	1	2	1	7	77
Coaldale No. 5,	Clearfield,	1	17	7	1	2	.....	28	1	.....	1	1	1	4	32
Colorado No. 1,	Clearfield,	1	28	2	2	2	.....	35	.....	.....	.....	1	.....	1	36
Colorado No. 2,	Clearfield,	1	50	6	1	3	.....	61	.....	.....	.....	1	1	2	63
Colorado No. 3,	Clearfield,	1	20	.....	1	1	.....	23	1	.....	1	.....	1	3	26
Columbia No. 5,	Clearfield,	1	7	1	.....	.....	.....	9	.....	.....	.....	.....	1	1	10
Cuba Nos. 2 and 3,	Clearfield,	1	9	.....	.....	.....	.....	10	.....	.....	.....	.....	1	1	11
Central,	Centre,	1	28	10	.....	2	.....	41	.....	.....	.....	.....	1	1	42
Decatur No. 1,	Clearfield	1	65	11	1	6	.....	84	1	.....	.....	6	1	8	92
Donegal,	Clearfield	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Electric,	Centre,	1	48	15	.....	3	.....	67	1	.....	2	2	1	6	73
Eureka No. 5,	Clearfield,	1	114	34	5	8	3	165	2	4	.....	4	2	12	177
Eureka No. 7,	Clearfield,	1	148	.....	3	6	5	163	2	2	.....	4	3	11	174
Eureka No. 8,	Clearfield,	1	19	1	2	1	.....	24	.....	.....	.....	.....	1	1	25
Eureka No. 9¾,	Clearfield,	1	40	1	3	2	.....	47	.....	.....	.....	.....	1	1	48
Eureka No. 12,	Clearfield,	1	99	8	3	4	4	119	1	.....	1	2	1	5	124

Eureka No. 13,	Clearfield,	1	150	6	2	4	6	169	2	1	2	1	3	9	178
Eureka No. 14,	Clearfield,	1	89	23	2	7	2	124	1	..	....	2	1	4	128
Eureka No. 15,	Clearfield,	1	27	10	2	5	.....	45	1	....	.....	1	1	3	48
Eureka No. 16,	Clearfield,	1	121	11	2	8	3	146	1	1	.....	3	3	8	154
Eureka No. 18,	Clearfield,	1	96	7	2	4	2	112	1	.....	1	3	2	7	119
Eureka No. 19,	Clearfield,	1	114	6	3	8	.....	132	1	1	1	2	2	7	139
Eureka No. 20,	Clearfield,	1	100	5	2	4	.....	112	1	.....	1	.....	3	5	117
Eureka No. 21,	Centre,	1	94	7	2	4	2	110	2	.....	1	2	2	7	117
Eureka No. 22,	Clearfield,	1	264	12	6	.....	1	284	1	2	.....	9	3	15	299
Eureka No. 23,	Clearfield,	1	44	4	2	.....	1	52	1	2	1	4	2	10	62
Eureka No. 24,	Clearfield	1	40	5	.....	2	1	49	1	.....	1	2	2	6	55
Eureka No. 25,	Clearfield,	1	23	7	2	2	.....	35	.....	.....	.....	1	1	2	37
Eureka No. 26,	Clearfield,	1	21	2	1	.....	.....	25	.....	.....	.....	.....	.....	.....	25
Fairmont,	Clearfield,	1	20	4	2	2	1	30	.....	.....	.....	1	.....	1	31
Ghem,	Centre,	1	26	2	1	2	.....	32	.....	.....	.....	.....	.....	.....	32
Gearhart,	Clearfield,	1	89	8	2	4	2	106	1	.....	1	2	1	5	111
Glenwood Nos. 1 and 2,	Clearfield,	1	50	4	1	3	2	61	1	.....	.....	2	2	5	66
Grampian No. 1,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grampian No. 2,	Clearfield,	1	26	2	6	1	.....	36	1	.....	2	1	2	6	42
Guion,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Highland,	Clearfield,	1	11	3	.....	2	.....	17	.....	.....	.....	1	1	2	19
Henderson No. 1,	Clearfield,	1	9	.....	.....	1	.....	11	.....	.....	.....	.....	1	1	12
Henderson No. 2,	Clearfield,	1	29	3	1	1	1	27	.....	.....	.....	.....	1	1	28
Imperial,	Clearfield,	1	70	10	1	6	1	89	1	.....	.....	2	1	4	93
Jefferson,	Clearfield,	1	40	5	1	2	.....	49	.....	.....	.....	2	1	3	52
Kentuck,	Clearfield,	1	27	5	1	2	.....	36	.....	.....	1	.....	1	2	38
Knobs,	Clearfield,	1	23	.....	1	1	.....	26	1	.....	.....	3	1	5	31
Leader Nos. 3 and 4,	Clearfield,	1	15	10	.....	2	.....	28	.....	.....	.....	.....	1	1	29
Lancashire No. 1,	Clearfield,	1	95	15	2	7	5	125	1	.....	.....	3	1	5	130
Lancashire No. 2,	Clearfield,	1	40	8	2	4	2	57	1	.....	.....	1	1	3	60
Leland and Queen,	Clearfield,	1	88	.....	.....	3	2	94	1	.....	.....	4	1	6	100
Lorraine and Ferndale,	Clearfield,	1	31	3	.....	4	1	40	.....	.....	.....	.....	1	1	41
Lane Nos. 1 and 2,	Clearfield,	1	47	6	1	1	.....	56	1	.....	.....	2	1	4	60
Lenore,	Clearfield,	1	39	5	.....	2	1	48	1	.....	.....	1	1	3	51
Mabel,	Clearfield,	1	75	6	1	3	1	87	1	.....	1	1	1	4	91
Meadowbrook,	Clearfield,	1	23	1	.....	1	.....	26	.....	.....	.....	.....	1	1	27
Mapleton,	Clearfield,	1	6	2	1	.....	.....	10	.....	.....	.....	.....	1	1	11
Morrisdale shaft,	Clearfield	2	490	61	16	24	7	600	5	7	2	46	13	73	673
Mt. Vernon No. 4,	Clearfield,	1	78	10	2	4	2	97	1	3	1	3	1	9	106
Mt. Vernon No. 6,	Clearfield,	1	87	19	4	6	3	120	1	3	.....	5	1	10	130
Midvale No. 1,	Clearfield,	1	18	4	1	1	.....	25	.....	.....	.....	.....	1	1	26
Montana,	Clearfield,	1	12	2	.....	.....	2	17	.....	.....	.....	.....	1	1	18
Ocean No. 2,	Clearfield,	1	100	2	2	8	1	114	2	2	1	6	3	14	128
Orient,	Clearfield,	1	38	.....	.....	6	1	45	.....	.....	1	.....	3	4	47
Pardee No. 2,	Clearfield,	1	112	35	5	10	4	167	2	2	.....	6	1	11	178
Phoenix,	Centre,	1	14	5	1	2	.....	23	.....	.....	.....	.....	1	1	24
Parks,	Clearfield,	1	24	4	.....	1	.....	30	.....	1	.....	2	.....	3	33
Reading,	Clearfield,	1	21	8	.....	2	.....	32	1	.....	.....	.....	1	2	34
Red Jacket,	Clearfield,	1	36	2	.....	1	.....	40	1	1	.....	2	1	5	45
Sterling No. 1,	Clearfield,	1	25	10	1	2	.....	39	1	.....	.....	1	2	4	43
Sterling No. 2,	Clearfield	1	18	2	.....	1	.....	22	.....	.....	1	.....	.....	1	23
Sterling No. 3,	Clearfield	.....	9	.....	.....	.....	.....	9	.....	.....	.....	.....	.....	.....	9

Table No. 3.—Continued.

Name of Collieries.	Location—County.	Number of Persons Employed Inside.							Number of Persons Employed Outside.						
		Inside foreman or mine boss.	Miners—Men.	Miners—Boys.	All company men.	Drivers and runners.	Doorboys and helpers.	Total inside.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All company men.	Superintendent, bookkeepers and clerks.	Total outside.	Grand totals—Inside and outside.
Schwinn No. 3,	Clearfield,	2	34	6	.....	1	.....	43	.....	.....	.....	.....	1	1	44
Schwinn No. 4,	Clearfield,	1	8	1	.....	.....	.....	10	.....	.....	.....	1	.....	1	11
Summit,	Jefferson,	1	16	.....	.....	1	.....	18	.....	.....	.....	1	.....	1	19
Troy,	Clearfield,	1	25	.....	.....	2	1	29	.....	.....	.....	.....	1	1	30
Union,	Clearfield,	1	23	1	.....	2	.....	27	1	.....	.....	.....	1	2	29
Victor No. 1,	Clearfield,	1	30	6	1	2	.....	40	1	.....	.....	1	.....	2	42
Victor No. 2,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
West Eureka No. 1,	Jefferson,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
West Eureka No. 2,	Jefferson,	1	97	10	2	8	3	121	1	3	1	5	1	11	132
West Eureka No. 4,	Jefferson,	1	111	14	3	10	2	141	1	5	.....	5	.....	11	152
West Eureka No. 5,	Jefferson,	1	104	6	2	6	5	124	2	7	1	5	.....	15	139
West Eureka No. 6,	Jefferson,	1	93	30	4	7	4	139	1	.....	.....	6	.....	7	146
West Eureka No. 10,	Jefferson,	1	153	10	9	7	2	182	1	.....	1	2	.....	4	186
West Eureka No. 11,	Jefferson,	1	130	8	1	6	3	149	1	.....	.....	5	.....	6	155
West Eureka No. 12,	Jefferson,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
West Eureka No. 13,	Jefferson,	1	95	16	2	9	3	126	2	1	.....	7	2	12	138
Webster No. 4,	Clearfield	1	14	.....	1	1	.....	17	.....	.....	.....	.....	1	1	18
Whiteside No. 1,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,	.....	87	5,406	653	155	302	105	6,709	69	63	34	209	113	488	7,197

TABLE No. 4.— List of Fatal Accidents that occurred in and about the mines of the Eighth Bituminous Mine District, for the year ending December 31, 1896.

Date of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Feb. 4.	Wm. Buckley,	Miner,	54	No	...	Reading,	Clearfield,	Instantly killed; skull fractured and chest crushed by fall of roof, bone coal and fire clay, while loading a car of coal.
April 8.	Earnest Pie,	Loco. engineer,	29	Yes	....	Atlantic No. 1,	Clearfield,	Instantly killed. Neck dislocated, thigh broken and body bruised. Caught on locomotive, by empty car being forced on him, by a collision of two locomotives with their trains of empty and loaded cars, on a single track, by a mistaken order.
20.	Thomas Gillis,	Miner,	49	Yes	8	Eureka No. 5,	Clearfield,	Instantly killed. Spine dislocated, ribs and jaw broken. Caught by a fall of top coal and bony in pillar workings while undermining.
22.	John Matthias,	Miner,	38	Yes	4	Morrisdale shaft,	Clearfield,	Struck on head by a small piece of slate falling from a pot hole in the roof. Died two weeks after in hospital.
Aug. 21	Joseph Hoyner,	Miner boy,	13	.....	....	Morrisdale shaft,	Clearfield,	Injured internally. Caught by a fall of roof slate across the hips while in a stooping position shoveling coal. Died 24 hours after.
Nov. 11.	George Mutztancus,	Miner,	42	Yes	2	Mabel,	Clearfield,	Instantly killed. Head, neck and chest crushed by having been caught by a fall of roof slate from a V-shaped slip, widest point being the lower surface, slip extending along room face 10 feet, and 4 feet wide.

TABLE No. 5.—List of Non-Fatal Accidents that occurred in and about the mines of the Eighth Bituminous Mine District, for the year ending December 31, 1896.

Date of accident.	Name of Person.	Occupation.	Age.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 18,	Daniel Koug,	Miner,	37	Eureka No. 7,	Clearfield,	All severely burned on head, face, hands and slightly on body, by ignition of coal dust, agitated by a misplaced, overcharged shot containing a mixture of powder and dynamite. The dust having been agitated and disturbed by a shot of dynamite fired a few minutes before the one that caused ignition.
18,	William Copenhaver,	Miner,	23	Eureka No. 7,	Clearfield,	
18,	Jacob Callan,	Miner,	26	Eureka No. 7,	Clearfield,	
18,	Henry Fink,	Miner,	22	Eureka No. 7,	Clearfield,	
22,	George Simpson,	Miner,	32	Morrisdale shaft,	Clearfield,	Leg and finger broken. Caught by a fall of roof, in having fired a shot and immediately returning to work, without making examination of his working place.
24,	August Gustafson,	Miner,	33	Ocean No. 2,	Clearfield,	Hip dislocated and head bruised by having been caught by a fall of roof from a circular slip.
Feb. 4,	Anton Gwist,	Miner,	25	Ocean No. 2,	Clearfield,	Slightly injured on back by a fall of roof.
6,	R. E. Badman,	Switch boy,	16	Atlantic No. 1,	Clearfield,	Both feet badly crushed, necessitating amputation of the right foot. He was riding on electric locomotive in a stooping position, and while the engine was in motion his feet slipped off and caught between the side of locomotive and coal pillar on a side track. Notices were posted around the works forbidding all persons except engineer and conductor from riding on the engine or cars.

	24.	Wm. Cahill,	Miner,	50	Black Diamond,	Centre,	Jaw and shoulder blade broken by having been caught by a fall of coal while mining.
Mch.	14.	John Book,	Miner,	42	Eureka No. 7,	Clearfield,	Left arm broken at elbow by having been caught by a fall of roof from a fire clay slip.
	21.	George Cunning,	Miner,	30	Eureka No. 5,	Clearfield,	Leg broken by a fall of bone coal, while atempting to secure it by timbering.
	25.	Wm. Abram,	Miner,	18	Victor No. 1,	Clearfield,	Left leg badly crushed, afterward amputated. Leg was caught under mine cars when he was attempting to jump on them while they were in motion.
April	8.	Nichols Johns,	Brakeman,	26	Atlantic No. 1,	Clearfield,	Left leg broken, right thigh and side bruised in a collision of locomotives and mine cars same time as reported in the fatal case at this mine.
	13.	John Black,	Miner,	32	Eureka No. 26,	Clearfield,	Collar bone broken by a fall of coal and roof slate.
	15.	Oscar Nelson,	Miner,	15	Atlantic No. 2,	Clearfield,	Leg broken by a piece of slate rolling from the gob, while he was sitting down resting.
May	14.	John Wallick,	Miner,	22	Eureka No. 7,	Clearfield,	Severe bruise on back by a fall of roof slate.
	18.	Mike Banny,	Dumper,	42	Eureka No. 22,	Clearfield,	Left arm badly bruised and broken, while dumping rock car, in not having it blocked sufficiently, it fell back on rail, catching his arm.
	25.	Joseph Saturday,	Miner,	40	Morrisdale shaft,	Clearfield,	Back bruised by a fall of slate.
June	10.	Fred Feosbeoter,	Miner,	54	Eureka No. 16,	Clearfield,	Thumb crushed and hand badly bruised by a fall of coal while mining.
July	1.	John Morris,	Miner,	35	Morrisdale shaft,	Clearfield,	Head cut and thumb cut off by a fall of coal while undermining without sprags.
	16.	John Burns,	Engineer,	60	Eureka No. 22,	Clearfield,	Two fingers badly crushed, afterward amputated. Was oiling engine while it was in motion, his hand being caught by crank.
Aug.	8.	Thos. Blake,	Miner,	35	Lancashire No. 2,	Clearfield,	Bone in left leg fractured and body bruised. He was shearing coal after it had been shot, and neglected to sprag it, when it fell, causing above injury.
	11.	Ed. Mansell,	Driver,	20	Morrisdale shaft,	Clearfield,	Small bone of forearm broken. He struck his arm against a car brake lever while jumping off a runaway train.

Table No. 5.—Continued.

Date of accident	Name of Person.	Occupation.	Age.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Sept. 4,	Edward McGroty,	Miner,	49	Atlantic No. 1,	Clearfield,	Head badly cut and three ribs broken by a fall of coal while mining a cut of coal with two loose ends and neglecting to use sprags.
22,	William Heane,	Miner,	48	Coaldale No. 3,	Clearfield,	Back injured and body bruised by fall of roof slate. He knew roof to be unsafe and was preparing to set a prop when it fell.
Oct. 6,	P. J. Draine,	Miner,	34	Loraine,	Clearfield,	Head and leg cut, and left hand blown off by the flying stone from a dynamite shot. He had prepared a blast of dynamite and ignited the fuse and retreated to a safe distance, and the explosion being too long, as he thought, he went back to see if the fuse had gone out. He held his lamp over the hole with his left hand, when the blast exploded with above result.
9,	Richard Jehue,	Miner,	50	West Eureka No. 5,	Jefferson,	Collar bone broken by a fall of coal while he was mining coal with a loose end, and not securing it by sprags. He had been ordered by the foreman to cease mining until he had set up sprags to secure the coal.
24,	Thomas Smith,	Miner,	24	Morrisdale shaft,	Clearfield,	Thigh broken by having been caught by a fall of slate while mining.
26,	Joseph Comits,	Miner,	39	Gearhart,	Clearfield,	Collar bone broken by a fall of coal. While mining a cut ready for blasting he cut into a powder slip from a previous shot, when it fell on him.

Nov.	30,	Patrick Parker and son,	Miner,	44	Pardee No. 2	Clearfield,	Both men's heads and bodies severely cut and bruised by a fall of coal and roof slate while they were taking out the last of a stump of coal in pillar workings.
	30,	John Parker,	Miner,	22	Pardee No. 2.	Clearfield,	
Dec.	17.	Ed. Butterworth,	Miner,	47	Lancashire No. 2,	Clearfield,	Forearm broken by a fall of draw slate. While taking down a piece of top coal the draw slate also fell.
	17,	John Jones,	Driver,	17	Coaldale No. 3,	Clearfield,	Right hip dislocated and left thigh broken while riding in front of loaded coal car holding on by a piece of coal, and while striking mule with other hand the coal broke and he fell in front of cars, which partly passed over him.
	18,	Michael Dike,	Miner,	36	Bear Run,	Centre,	Head severely cut and bruised by having been caught by a fall of coal while mining without sprags.
	19,	Silas Hall,	Miner,	28	Morrisdale shaft,	Centre,	Leg broken and shoulder bruised by a fall of coal, having neglected to sprag the coal while mining under it.
	21,	Cormac Mooney,	Miner,	38	Sterling No. 1,	Clearfield,	Right leg broken, also several fingers of right hand broken and hand badly bruised by having been caught by a fall of roof slate while mining.

NINTH BITUMINOUS DISTRICT.

(FAYETTE, WESTMORELAND AND ALLEGHENY COUNTIES.)

Connellsville, Pa., Feb. 27, 1897.

Hon. James W. Latta, Secretary of Internal Affairs:

Sir:—In compliance with the act of General Assembly of Pennsylvania relating to coal mines, approved May 15th, 1893, I have the honor to herewith submit my annual report as Inspector of Mines for the Ninth District for the year ending December 31st, 1896.

The production of coal in short tons was 5,210,982 and in coke 1,265,318, being a decrease of 441,831 in coal, and in coke of 719,883 tons from that of the year previous. There is also a decrease of 54 in the average number of days worked. Although some of the mines made full or nearly full time, there were others that worked but a few days. There were 19 lives lost during the year—this being one less than for 1895. The number of injuries not fatal was 41—an increase of one as compared with the preceding year. Of the 19 lives lost 7 only could be classified as accidental, while the other 12 were caused by taking unusual risks. Electricity is being introduced into the mines for haulage purposes and to run coal cutting mahines; this is a new element of danger and 2 lives were lost by coming in contact with the main current; one happened at the pit mouth, and the other close to the working places. Two lives were lost by explosive gas and are explained in accident list. I mention this, as one of them was the fire boss and by his indiscretion both men lost their lives. While quite a number of the mines in this district are great gas producers, they are kept very free from accumulations. Ventilation, drainage and general condition of the mines are in a reasonably satisfactory condition. There were nine wives made widows, and twenty children orphaned by these casualities—three of the widows and 7 of the children being residents of foreign countries.

A brief description of the condition of the mines, and also the circumstance under which each fatal accident occurred, the number of mines idle and those that were in operation, together with the usual statistical tables will be found in their proper places in this report.

All of which is respectfully submitted.

Yours respectfully,

BERNARD CALLAGHAN.

Causes of Accidents for 1896.	Fatal.	Non-fatal.	Widows.	Orphans.
By falls of slate,	6	12		
By falls of coal,	3	4		
By falls of coal and slate,	1	1		
By falls of roof coal,	1	5		
By mine wagons,	2	9		
By explosive gas,	2	4		
By electric current,	2			
By coal cutting machine,	1			
By the cage,	1			
By falling through the tipple,	1			
Miscellaneous,		6		
Total,	19	41	9	20

Nationality of Persons Killed or Injured.

	Killed or fatally Injured.	Injured.	Total.
Scotch,		1	1
Swede,	1		1
Slavish,	3	10	13
Hungarian,	2	10	12
English,	1	2	3
Italian,	4	4	8
German,	1	5	6
American,	7	9	16
Total,	19	41	60

The following statistics are compiled from reports of the operators to this office for the year ending December 31st, 1896.

Number of mines in the district,	67
Number in operation during the year,	59
Number of miners (men and boys),	5,689
Number of persons inside, including mine foreman, trappers, etc. (not miners),	1,027
Total number employed inside,	6,537
Number employed outside,	1,744
Total number inside and outside,	8,381
Production of coal in net tons,	5,210,992
Coke manufactured and shipped,	1,265,318
Coal shipped, net tons,	3,319,497
Number of tons of coal produced per each person employed,	629.72

Number of lives lost during the year,	19
Number of tons of coal produced per each life lost,	274,262
Number of persons injured during the year,	41
Number of tons of coal produced per each person injured,	127,097
Number of persons employed for each life lost,	435
Number of persons employed for each non-fatal accident,	201
Number of days worked during the year,	11,112
Average number of days worked at 59 mines,	188
Number of kegs of powder reported used,	11,380
Number of steam boilers used at the mines,	149
Number of mine locomotives,	6
Number of steam pumps used in the mines,	61
Number of coke ovens in the district in operation,	4,697

Mines on the Baltimore & Ohio Railroad.

B. & O. Mines.—There is hardly anything new to be said about this mine. It has kept up its record for steady work during the year. Ventilation and drainage good. Clair Stillwagon, mine foreman.

Davidson's Shaft.—Several improvements have been made during the year, such as raising swamps to uniform grades and preparing to get rid of large quantities of water by putting in two large extra pumps at bottom of the shaft, and preparing for wire rope haulage. The mine is in good condition. John Stevenson, mine foreman.

Henry Clay.—Is as I have always found it, in good condition. A ditch has been cut through to Davidson's Shaft which relieves them from pumping and keeping up a large amount of pipe, etc. John Keck, mine foreman.

Tyrone.—Has worked every day except two during the year and it is very fortunate that this is the case as they have quite a number of thin ribs of coal to work and it would be injurious for them to be left standing long. It is commendable to note the care they take to get this coal out clean. Thomas R. Kane, mine foreman.

Jackson.—The output of this mine has been broken and half lost coal, although they have some solid coal to work yet, but to keep the mine in good condition they chose the better way to work it. George Moore, mine foreman.

Sterling Nos. 1 and 2.—Idle during the year.

Eureka.—This mine is generally found in good condition and considerable improvement has been made this year in the way of a pair of new haulage engines 14x18 inches. The rope haul was extended 1,800 feet. An electric mining plant equipped with 6x18 feet tubular boiler and Skinner engine 150-H. P. to run four "Morgan and Gardner" 7-foot chain machines. They are also putting in a new opening to work the dip coal and are in good condition for a large output. James Bayley, mine foreman.

Smithton No. 2.—Is in fairly good condition. They run their butt entries on east side to connect with the old hill main which gives separate air currents by a very cheap plan. They were rather unfortunate at the time of the great rains last summer in having their outside tracks carried away by the flood that swept through this valley at the time, which caused them considerable delay and expense. James Henderson, mine foreman.

Port Royal No. 1.—This mine has done more work this year than for several years past. The rope haulage that was put in last year is being extended about 2,000 feet which will insure a good output for some time to come. Drainage and ventilation good. William Goodfellow, mine foreman.

Euclid.—Has not been operated very steadily this year for lack of contracts, but the mine has been put in excellent order as far as healthfulness and safety is concerned. Michael Roy, mine foreman.

Yough Slope.—Considerable improvements have been made by the putting in of a general electric plant to run two coal cutting chain machines and an electric fan, and also a new shaking screen for nut coal. The mine inside is in good condition for a small number of men as at present.

Amyville.—There is not much to report in regard to this place. A couple of butt entries have been driven through the hill to daylight which makes it more healthful for the miners on that section. It is in other respects in fairly good condition. Samuel Jones, mine foreman.

Ocean No. 1.—This is a very extensive mine and is worked with coal cutting machines of the Jeffrey type and electric motor for hauling and an 8-foot diameter Capel fan that can supply all of the air required for ventilating purposes. It is a well equipped plant and is well looked after. Arthur Crossland, mine foreman.

Dillworth.—This mine has been abandoned, all the coal having been worked out.

Shaners No. 2.—Made some little improvements in the way of raising a swamp to grade level and improving air courses, etc. Their railroad side-tracks were washed out by the heavy rains last summer which caused them considerable delay and expense. Walter O'Malley, mine foreman.

Guffey.—Mine is in very good condition generally except one swamp entry, which will soon be worked out. Edward Bell, mine foreman.

Big Chief.—I am happy to say that this mine is very much improved in condition; a shorter route to the furnace produced this change which I think will continue throughout. H. D. Thompson, mine foreman.

Osceola.—On my two last visits to this mine I found the drainage bad on the south side and the ventilation not very good on the north side. This is not a usual occurrence—the imperfect drainage being caused by the heavy rains causing the creek to break into the mine, overflowing the roads and partially choking the drains. The butt entries are being driven through to connect with a main tunnel which gives them good ventilation, but until they cut through it will be very sluggish. They raised their coal tipple and put in new screens and drop pan. Maurice Beedle, mine foreman.

Mines on the Mount Pleasant Branch.

Rist.—The general conditions for ventilation and drainage are desirable throughout. Chas. Wingenworth, mine foreman.

Morgan.—A small operation, the solid coal being nearly all worked out, but it is kept in good condition. Frank Cochran, mine foreman.

White.—Operated only part of the year, but when working was kept in good condition. Terrence Donnelly, mine foreman.

Summit & Eagle.—Operated only part of the year and at this writing is still idle. Mine has always been found in good condition. James Connor, mine foreman.

Franklin.—Is all that can be desired for ventilation and drainage. Jacob Dewalt, mine foreman.

Tip Top.—Worked but a few days at the beginning of the year and is still idle. At each inspection it was satisfactory and the lawful requirements were observed. Patrick Reynolds, mine foreman.

Valley.—Ventilation, drainage and general condition is all that can be desired. James Jackson, mine foreman.

Scottdale Iron & Steel Co. Mine.—A small mine, the coal all being used at the Company's mills. It is always found in good condition. H. S. Suttle, mine foreman.

Dexter.—Although not in the best desirable condition it is not to say bad. The ventilation being natural, is never the best unless falls to the surface are plentiful, which is not the case here, but they are working the worst part at present, and will soon be in better condition. S. S. Fairchilds, mine foreman.

Painter.—Lack of contracts caused a suspension of work for three

months at this place, but they took advantage of the idle time by putting up a new boiler and changing another together with a pump to a better location near the pit mouth. The mine is in good condition. P. P. Glenn, mine foreman.

Diamond.—Worked only 17 days at the beginning of the year and is still idle. John Bell, mine foreman.

Bessemer.—Is in fairly good condition, it was also affected by the depression in the coke trade but is now in operation again. John Nary, mine foreman.

Rising Sun.—Was worked scarcely any this year and is still idle. Thomas Evans, mine foreman.

Emma.—A very small operation but is always kept in good condition. Adam Whitehead, mine foreman.

West Overton.—A new opening has been made at opposite side of the railway which has opened up some 10 acres of coal. The surface here is very thin but the rooms are driven eight feet wide only, with a pillar about 12 feet, which is a very successful way to mine coal.

The old hill has a few ribs and stumps to work yet. General condition good. John Boyle, mine foreman.

Buckeye.—In operation about 8 months and stopped for want of orders, and is not working yet, but was kept in very good condition when in operation. George Burns, mine foreman.

Mullin.—A great improvement has been made at this place recently by cutting into old Hazlet shaft for drainage purposes. This makes all these workings self draining, doing away with pumps and a very long line of steam pipe, etc. William Alexander, mine foreman.

Hazlett shaft has been made a pumping station instead of a slope. This is a very desirable change, as the slope could not properly drain all the water, which was a standing menace to Buckeye, Standard and Mullin mines. A boiler house was erected and 4 boilers fitted up. Landings were built in a shaft, and 3 pumps placed near the water, which is now pumped down to the shaft bottom from 28 feet of elevation.

Mines Along Pennsylvania Railroad Southwest Branch.

Plumer.—This mine was in operation about 4 months only this year and is still idle.

Coal Brook.—Made some improvements by putting in a new 12-feet diameter blowing fan which sends a sweeping current through all the workings. This mine is in excellent condition generally. M. F. Picard, mine foreman.

Grace.—No improvements were made nor are any needed for some time to come. General condition good. John McDonald, mine foreman.

Pennsville.—Everything here is in very good condition, the mine is not very extensive and is therefore easily looked after. William Kooser, mine foreman.

Union.—Is a small mine and always found in good condition. A new Yough 5x10 inch pump and boiler have been put in to replace hand pump. B. S. Raygor, mine foreman.

Donnelly.—This mine has been idle nearly all the year. A deep ditch has been cut to No. 3 southwest mine which gives them natural drainage, which does away with two pumps and a large amount of steam and water lines. John Nash, mine foreman.

Mayfield.—In operation but 4 days and is still idle for lack of orders.

Mines Along the Pittsburgh & Lake Erie Railroad.

Adelaide.—A very extensive mine; the drainage is all conducted to the Lotter mine and is therefore good. The ventilation is passed through the workings with a powerful blowing fan at the rate of 105,000 cubic feet per minute. It is supposed to be a gaseous mine, but I never detected any. None but locked safety lamps are used. Thomas Harris, mine foreman.

Moreland Slope & Fort Hill.—These are practically one operation only that the slope section is worked exclusively with locked safety lamps on account of explosive gas that is generated at some places. The Fort Hill workings being nearer the crop can be worked with open lamps. These places are well cared for. William Sloan, mine foreman.

Rainbow.—Has been found in very good condition. The dip side has started up again after a long idleness, and will be watched with interest, as this is the place where a fire originated which caused an explosion of gas four years ago. Dennis Wordley, mine foreman.

Wick Haven.—Although a new mine it is being developed very fast. They had a mine fire in the early summer which was caused by a shot in a clay vein in Dip headings which necessitated this part of the mine being flooded for a short time. The ventilation here is not as good as it should be, as the small fan put in for a temporary arrangement is now too small for the work. A new haulage equipment and new air compressor have been installed. James Watkins, mine foreman.

Banning.—A bore hole has been put down near the bottom of these working also a large new Yough pump and new air compressor. This puts the mine in good condition for drainage. The ventilation is produced by a large fan which forces into the mine about 100,000 cubic feet of air per minute which is difficult to get to lower workings on

account of surface falls near the outside. It is a great gas producer and is watched closely. I consider it one of the most dangerous in the district. John Higson, mine foreman.

Darr.—Some improvements have been made here, such as one battery of 4 boilers, one new Norwalk air compressor, one new chain coal cutting machine and one large plunger Yough pump. This mine is also a gas producer but has been very free from it recently. It is well looked after as its large output will show. Chas. Watson, mine foreman.

Port Royal No. 2.—A new air compressor has been put up at this place which gives plenty of air to run the pumps and coal cutting machines inside. This mine also gives off large quantities of explosive gas, but when ribs are not drawn out, there is not much danger from gob accumulations. It is one of the best cared for mines in the district, which makes it as safe as mines that are less dangerous but are not so well watched. William Goodfellow, mine foreman.

West Newton Shaft.—Has always been found in excellent condition throughout. Robert Hall, mine foreman.

Ocean No. 5.—Has not been operated this year, one cause being slack trade, and the other being that coal cutting machines having been introduced at Nos. 1 and 2 increased their output. Frank Ridley, mine foreman.

Forrest Hill.—This mine was improved by putting up a 12½-feet diameter Capel fan, also an electric plant to run haulage motor and chain coal cutting machines, pump house, machine shop and sand-house; also a deep well pump. This mine works very steadily and had a large output. Reports of inspection here are always good. Robert Watson, mine foreman.

Pacific.—A new Capel fan having been put up at the beginning of the year gives this mine good ventilation—something it stood greatly in need of before. The drainage is rather difficult from local swamps, but is being very well cared for. John Thomas, mine foreman.

Sarah.—This mine was idle the whole year, except during the last 7 days. Little can be said for it until it is gotten in condition again. John Thomas, mine foreman.

Ocean No. 2.—A new electric motor for haulage purposes has been put in, also 6 coal cutting machines of the Jeffrey type and three electric pumps; the electricity is supplied from the general plant at No. 1 and also runs a new Capel 12½-feet diameter fan which gives a sweeping current throughout. This makes three Capel fans that this company has put up during this and last year. A current of from 60,000 to about 90,000 cubic feet per minute is recorded at these places, but this is not the capacity of these fans,

as it is only necessary to increase their speed to have more air. Thomas Whiteman, mine foreman.

Ocean No. 4.—Part of the coal at this mine is being taken out at No. 2. The other parts of the mine are not working at present.

Painters & Cornell.—This mine had a brief suspension for want of contracts, but is in operation again. It is always kept in excellent condition. John Frazer, mine foreman.

Dravo.—Did not work steadily the whole year, but is in fairly good condition for business. John Mathewson, mine foreman.

Brown's Nos. 1 and 2.—No. 1 was not in operation during the year but No. 2 did fairly well. Ventilation and drainage are well looked after. It is expected that a coal cutting machine will be put in here immediately, as they have an improved one of their own design, and an electric plant in place. Alexander Cochrane, mine foreman.

Lynch.—This is a small mine and being located at McKeesport the coal is all hauled away in carts and wagons through the city as custom coal. Ventilation and drainage fairly good. George Crouch, mine foreman.

Mines Along Belle-Vernon Railroad.

Belle Bridge.—This being a river mine is not operated steadily having only 104 days to its record, but it is being kept in fairly good condition. Henry S. Henderson, mine foreman.

Lovedale.—Has not been in operation for four years.

Horner & Roberts.—This place is being worked by a co-operation of miners calling themselves "Elizabeth Mining Co., Limited." They are working in both the new and old parts of the mine and if trade would warrant, their perseverence would denote that they are a progressive company. They are rather crippled for ventilation but expect to remedy this. Archie Cowan, mine foreman.

Gospel.—Not much can be said for this mine, as the coal is all being worked to their boundary line, with very little of it in the solid state now. But they intend going through to the adjoining hill to open a new field of coal. John Besenther, mine foreman.

Accident List, 1896.

At the Forrest Hill mine, on February 13th, at about noon, John William Crossland a boy, 15 years old, fell through the tipple and was instantly killed. He had been employed outside for six months and had worked inside for nearly two years before. When the tipples were erected last summer, two were put in, but only one of them was in use for dumping coal until the morning of the accident.

It is of the cross-over type and was the main road to the slate dump, and was covered on top until this time. Three wagons of coal only had been dumped, and the next wagon being full of slate

it was being run over, when John William stepped on the rear end to put down the brake and just as he was crossing over the tipple, I suppose he forgot himself and stepped off in the middle and fell through and landed on his head, a distance of 30 feet. He was a son of the mine foreman.

On February 29th, at the Darr mine, Joe Basttate, an Italian miner, was almost instantly killed by a piece of slate in No. 3 room, No. 2 butt entry. He was digging down part of a butt shot next to the rib, and stood under this piece of slate and had dug off enough to clear a slip when it fell on him. An experienced miner would have stood on the outside of the butt and dug the coal off, then he would have been safe. He was a few months only working in the mines and had been one and a-half years in the country. He left a wife and one child in Italy.

At Belle Bridge Mine, on March 18th, William Linden, miner, was helping to push a loaded trip from the slope into No. 7 entry and stepped between the wagons to cross over to the other side when the trip started outwards and caught him, rolling him along the rib a distance of about 6 feet. The space being only about 6 inches from the wagons, both his arms were broken and he was hurt internally. He was taken to the hospital at McKeesport, but died the third day after. There seemed to be some blame attached to the engineer because he lifted the trip before he was signalled. I spoke to him about it and he said that the steam slide valves on the engines were worn so that it took a full head of steam to allow him to reverse them, which accounted for the trip being reversed so quickly.

Alexander Johnson, aged 18 years, met his death in a very strange manner on the morning of March 19th, at Ocean No. 1 mine. As the trip was about ready to start in, he either tried to cross the empty wagons or intended to ride in, and in stepping on the bumpers, he accidentally touched the trolley wire with the lamp which was on his cap and he had a copper pin stuck in his cap for the purpose of trimming his lamp. This was pointed inwards to his head and it is supposed that this had also touched the trolley wire and communicated the electric current, which was 500 volts, to his head and he sunk instantly never uttering a word. His father was present at the time, as was the mine foreman and several other miners and laborers. Thinking perhaps he was only shocked they carried him into the mine foreman's office and put him through the treatment which is prescibed for such cases, for two hours, but he never sowed any signs of life.

By an explosion of gas, Alex. McDonald, fire boss, and John William Davis lost their lives at the Euclid mine, Port Royal, on

Saturday, March 21st. The mine had been idle for the three previous days, but they intended to load one car of coal on this day and the mine foreman sent the fire boss in to inspect the mine before he would send a driver in to haul out some coal that was loaded. He also sent in William Davis, a boy who hauls water out of a swamp about 700 feet from the face of No. 5 and 6 entries. The boy, John William Davis, was ready to leave the bottom of the shaft as soon as the fire boss, and from the occurrence it seemed that he did, because he was found only about nine or ten feet from the fire boss, although his mule was lying dead beside the water wagon, a distance of over 200 feet nearer the shaft. This was the best evidence we had in determining that the boy had driven the mule in to the water wagon and then had joined the fire boss in making his inspection of Nos. 5 and 6 entries. As there was no one inside the mine between them and the shaft bottom, a distance of about 3,000 feet, there could have been no one else to light the gas but themselves. But to explain this is a very difficult matter, as they were both lying dead when found, which was about six hours after the explosion. I am of the opinion, from the circumstances surrounding this case, that the fire boss allowed this boy to accompany him from where the water wagon was, and as the records show that there never was any but small quantities of gas found in Nos. 5 and 6 entries and always close to the face, he would think it quite safe to allow the boy to carry his open light to about the last cut-through, for it was about 100 feet from the cut-through where McDonald's safety lamp was found, and the boy's lamp was found about 5 feet from it, showing that the boy was following him in. Their bodies were about 30 yards from where the lamps were found and the boy's was about 10 feet farther back. The great mystery about this was that the gas must have been two or three hundred feet back from the face of the entry on that morning, for when we reached the bodies I got right up to the face and could not find any trace of gas. Along with Mr. James Watkins and Mr. William Goodfellow, the mine foreman, of Port Royal mine, we made an inspection of the other parts of the mine and found them in the usual condition. Notwithstanding the ventilation being destroyed, I came back on Monday morning the 23rd and made another inspection and could find no gas in Nos. 5 and 6 entries, and the ventilation having been conducted to these temporary stoppings, there were no visible air currents at the last cut-throughs, and surely this was a good opportunity for gas to accumulate if it were generated only in small quantities. We also made an inspection in rooms in the same entry in case gas had been given off in them but could find none. This occurrence should teach us not to allow any one to go into a mine until the fire boss has made his inspection.

Samuel Calatrese, aged 37 years, Italian, was instantly killed in No. 3 room, No. 14 entry, at the Darr mine on April 20th, by coal falling on him after it had been shot down. This was a butt room and they had a deep cut made and put their shot in the face but before it was shot they had shoveled all of the slack that was near the front of it to prevent it breaking up, so when it fell it rested on this slack. They commenced to shovel away the slack when it suddenly turned over on top of Calatrese and caught on the heel of his partner, Benj. Careledon, who was trying to get away. These men did not seem to realize the danger of the situation.

At Grace mine on July 1st, Steve Bovala was found dead under the cage at the air shaft, by Joe Numisky, who happened to go there for water for his mule. It appears that Steve must have intended to clean out the cage seat because he had a shovel with him when found. His only duty was to dig coal for the boilers to run the fan and pump and having got through with his work this day about noon, it is supposed that he wanted to clean the pump althought it did not require cleaning at the time, but if he did, he must have forgotten to inform the engineer, because when there is not any hoisting to be done the cage is always left on the bottom on account of it interfering with the ventilation, so the engineer lowered the cage after hoisting the last wagon as usual, and no one being present to notify him, it had rested on Bovale an hour before any one knew of the accident.

At the Darr mine on July 14th, Mike Maloskey, aged 19 years, while taking down a piece of slate in his room, No. 3 on 15 entry, it fell on his foot and the lower part of his leg mashing it badly. He was taken to the hospital at Connellsville the same evening and the doctors wanted to amputate the leg but his father objected saying that he would sooner see him dead than loose his limb so they waited until next day and seeing that it would be sure death if put off any longer, so to try to save his life, they amputated the leg but Mike did not recover from the shock and died the same day. Had the leg been amputated at first, he might have lived, at least such is the opinion of the surgeons.

On the morning of July 21st, at the Rainbow mine, the mine foreman and fire boss in visiting the mine places, found Steve Crebula dead in his place although there was nothing on top of him. There were evidences of coal and slate having fallen on him, but he had risen after he was struck, but died from the effects of the blow. His skull was cut through to the brain and his both legs were broken. He had about finished loading his night wagon when the fall came and no one being near him at the time it was not known until these men found him. He left a wife and 4 children in Hungary.

Paul Ginder, aged 18 years, was instantly killed at Eureka mine on the morning of August 26th in his room No. 31, No. 9 entry. While he was loading his wagon a piece of slate 5 feet long by 3 feet broad and 10 inches thick fell upon him. The mine foreman had visited his room about 8 A. M. and seeing the danger of the slate cautioned him not to work under it and he said he would watch it. As he was a very obedient boy and always heeded the advice of the mine foreman he passed on in his round, when, about 10 o'clock A. M. he got word that the slate had fallen. In investigating the place it was plainly seen that he had been shoveling the coal from under this slate, either for the purpose of taking it down or clearing the place to post it up. There was no one near when it fell on him. His father worked two rooms from him and was the first to find him; he was not quite dead although he never regained consciousness and died two hours after. Another case of taking unnecessary risks for a few shovelfulls of coal.

James S. Grant, a driver, aged 26 years, was killed by his loaded trip at the Valley mine on September 4th. This happened in a very curious manner and ought to be a caution to drivers that there is danger in places where they think it would be impossible for an accident to occur. At the place where Grant was caught the grade was against the loaded trip but there was a slight grade the other way before reaching this place and it being customary for the drivers to jump off the front of trip and pull on the wagons to assist the mule in getting over this short piece of road, it happened in this case that the trip parted in the middle and the mule being then able to travel faster with the half of the trip, the front wagon caught Grant's foot and ran on him. There was help at hand but he was unconscious and remained so until he died about 12 hours afterward.

William Chappel, 30 years old, met with a fatal accident at Ocean No. 2 mine on September 12th, which resulted in death 3 days after. He was an assistant machine runner and after the machine started to make a cut, he stepped on it to tighten the screwjack, and when stepping off again, he put his foot too close to the chain cutter when it was caught above the ankle and dragged him into the body of the machine and tore his leg off nearly at the hip joint.

Petro Cassia, an Italian miner, was instantly killed by a fall of slate in his room, No. 12, on 7 entry, at Osceola mine on November 2nd. His son, about 16 years old, was working with him at the time and said that he was shoveling the coal from under the slate to finish loading the wagon when it fell on him. In investigating the place it could be plainly seen that this man was risking his life in attempting to go under the slate, but in his eagerness to load

his wagon overlooked the danger and consequently forfeited his life.

At the Yough slope on November 3rd, a peculiar accident happened whereby John Lang, a miner, was instantly killed. This mine is equipped with electricity for the purpose of running coal mining machines and pumping water out of the mine. The current is conducted along the entries with three cables and is insulated, but having been in the mine some time they had become wet from the moisture and would seem to be almost as dangerous as if they were bare. Lang had his loaded wagon pulled out on the entry, and not being satisfied with the manner in which the load was piled on top, followed it out to the entry and was trimming it when he happened to lean against these wires and was killed on the spot. It was shown that his shirt was wet with perspiration and this was the reason he got the shock so severely.

Joseph Janette, an Italian miner, aged 26 years, was instantly killed by a fall of slate in 22 room, No. 9 entry, Guffey mine. He was knocking down some coal from the end of a butt when a piece of slate 5 feet long and over 3 feet broad at one end fell on him. This man was considered a very good and careful miner, but he surely erred in his judgment in this case, because he had nearly enough coal dug to load his wagon, and it was the last wagon he intended to load in that room. He was to work in another place the next day, and it is strange that he would go under so dangerous a piece of slate for if he had needed more coal to load his wagon, he could have gotten it easier and from quite a safe place.

Andy Puggy, a Hungarian miner, aged 28 years, single, was instantly killed in his room, No. 19, No. 4 entry, at Painter and Cornells mine on November 27th. He had been knocking down some coal from the butt end of a cut which was under slate the whole breadth of the room with only one post under it at the roadway. The coal he was digging from this butt had just released a slip that could not be seen while it was up, but he should have had at least two more posts set up in such a wide space when he would have been safe in digging all of the butt. He had been working in the mine for several years and imagined he knew the danger, but he did not show it in this instance or he would have protected himself, as there were plenty of timbers in his room at the time.

At the Ocan No. 1 mine on December 5th, Frank Griffin, a miner, aged 49 years, was instantly killed by a fall of slate. He was working with a Hungarian at the time and had just fired a shot in the coal. The room was narrow and just a few yards in from the entry. After the shot went off, they both went in to load a wagon that was empty, one going past it on either side, when the

slate fell and by a chance the Hungarian had not gone far enough in or he would have been killed also. This case showed great carelessness on the part of these men as it was evident that this slate should have been posted before the shot was fired, for no doubt it was the jar that made it fall at the time. No doubt the Hungarian depended on the American's knowledge for his safety and while he barely escaped with his life it should be a lesson to him for the future.

Albert Peterson, a machine runner, aged 33 years, was instantly killed by a fall of roof coal at the Forrest Hill mine, No. 1 west entry, in No. 13 room. This room was driven up nearly 360 feet and there were only two more cuts to take out when the accident occurred. It is the custom at this place as well as at others to cut the rib over when nearly up to the destination and take the two rooms in a breast double header fashion, and in this instance no account was taken of the condition of the room, for suddenly a piece about 18 feet long and about 11 feet wide and 15 inches thick fell on both men and the machine, killing one of them and injuring the other. Had they been careful and put their hands to the roof while the machine was in operation, the jarring of it would have revealed its true condition and by putting up two posts after part of the cutting was done, this life could have been saved

Cottage State Hospital.

The fifth anniversary of the opening of the Cottage State hospital of this place was on Wednesday. The operation of the hospital since the opening on January 27th, 1891, has proven the wisdom of the building committee in selecting Connellsville as the site for one of the Cottage Hospitals for injured miners and others. In no year since its inception has the hospital so well demonstrated its usefulness in the cause of humanity as during the year 1896.

Since the opening in 1891, 1,018 patients have been admitted and treated for injuries in the wards. In the year just closed 288 were admitted and treated and in addition, 53 patients had their wounds dressed at the hospital, but did not remain for after treatment. Of the patients detained in the wards for treatment 172 were discharged as cured so far as their injuries would admit of surgical treatment; 23 died, a large majority of them a few hours after their admission, their wounds being in nearly every instance necessarily fatal, and 33 were still under treatment at the end of the year. A very large proportion of the injuries were of a serious nature, requiring long treatment in the hospital. The injuries are classified for the year as follows: Burns, 5; crushing injuries requiring amputation, 24; dislocation, 9; fracture of the extremities, 52; fractures of the jaw, 4; fractures of the pelvis, 6; fractures of the back

3; fractures of the skull, 4; fractures of the ribs, 5; head injuries, 11; hernia (strangulated), 3; injuries of the eyes, 15; necrosis of bone, 5; rupture of urethra, 4; gun shot wounds, 13; sprains of the ankle, 3; sprains of the wrist, 2; traumatic synovitis, 5; incised wounds, 7; lacerated wounds, 22; punctured wounds, 6; miscellaneous injuries, 20.

Owing to the fact that the fiscal year commences on June 1st an account of the expenses of the hospital cannot be given up to January 1st. During the fiscal year ending on May 31st, 1896, the number of patients treated was 290 and the outside patients 62. The aggregate number of days the "in" patients were treated was 8,267, making the average stay of each patient a little over 28 days. The cost per day of maintaining the "in" patients was 92 cents, which is 8 cents less per day than the average cost of patients in the hospitals of the State. In this hospital sick cases are not received, and as surgical patients eat more and require more expensive treatment the expense would be expected to be greater than in a general hospital, but such is not the case, which should be a cause for congratulation to the management and the coke region. The dullness in the coke trade has had its influence upon the hospital record, making the admission fewer during the calendar than the fiscal year.

During the year Mrs. J. E. Sims, nee Ferguson, resigned her position as superintendent of the hospital and Miss Annie M. Hooper was installed as her successor. She has proven herself to be an efficient and careful officer. Dr. H. J. Coll was added to the surgical staff and Dr. L. S. Hyatt was appointed surgeon dentist. In July Dr. J. B. Ewing, of Uniontown, and H. C. Huston and H. S. Spear were commissioned by the Governor as trustees, vice J. J. Singer, Peter Wise and James Magee, removed. The board is now composed of the following persons: Col. J. M. Reid, president; Charles Davidson, treasurer; Dr. T. H. White, secretary; H. C. Huston and H. S. Speer, of Connellsville; D. S. Atkinson, of Greensburg; James Corrigan, of Everson, Dr. J. B. Ewing, of Uniontown, and Dr. George W. Neff, of Masontown. The building committee is Col. J. M. Reid, H. S. Speer and Dr. T. H. White.

Table No. 1.—Showing location, &c., of collieries in the Ninth Bituminous Mine District.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Post-office Address.
Acklands	H. C. Frick Coke Co.,	Fayette,	James A. Childs,	Adelaide.
Armyville	Youghiogheny Gas Coal Co.,	Westmoreland,	John W. Peters,	Sutterville.
Browns No. 1.	W. H. Browns Sons,	Allegheny,	James A. Dewar,	Boston.
Browns No. 2.	W. H. Browns Sons,	Allegheny,	James A. Dewar,	Boston.
B. & O.,	Marietta Stillwagon Co.,	Fayette,	Clair Stillwagon,	Connellsville.
Banning,	Morgan, Moore & Bayne Co.,	Fayette,	Peter Cammeron,	West Newton.
Belle Bridge,	Belle Bridge Coal Co.,	Allegheny,	Wm. M. Fillabom,	Belle Bridge.
Big Chief,	John Blyth & Co.,	Westmoreland,	H. D. Thompson,	Robbins.
Buckeye,	McClure Coke Co.,	Westmoreland,	James Dumphy,	Stouffers.
Bessemer,	McClure Coke Co.,	Westmoreland,	James Devlin,	Mount Pleasant.
Coal Brook,	McClure Coke Co.,	Fayette,	M. F. Picard,	Ruth
Davidson shaft,	H. C. Frick Coke Co.,	Fayette,	John I. Munson	Connellsville.
Dexter,	Joseph R. Stouffer & Co.,	Fayette,	S. R. Fairchilds	Scottdale
Donnelly,	McClure Coke Co.,	Fayette,	O. W. Kennedy,	Scottdale
Darr,	Osborne, Saeger & Co.,	Westmoreland,	W. A. Osborne	West Newton.
Diamond,	McClure Coke Co.,	Fayette,	J. H. Culler,	Scottdale
Dravo,	Lake Shore Gas Coal Co.,	Allegheny,	C. H. Wiesser,	Robbins.
Eureka,	Eureka Coal Co.,	Westmoreland,	William McCune	West Newton.
Euclid,	Ohio and Pennsylvania Coal Co.,	Westmoreland,	Michael Roy,	Fitz Henry.
Emma,	J. W. Overholt & Co.,	Westmoreland,	J. W. Overholt,	Scottdale
Enterprise,	McClure Coke Co.,	Westmoreland,	O. W. Kennedy,	Scottdale
Franklin,	B. F. Kiester,	Fayette,	B. F. Kiester,	Summit Mines.
Fort Hill,	W. J. Rainey,	Fayette,	T. J. Mitchell,	Vanderbilt.
Forrest Hill	J. W. Ellsworth & Co.,	Allegheny,	Robert Watson,	Sutterville
Grace,	W. J. Rainey,	Fayette,	T. J. Mitchell,	Vanderbilt.
Gaffey,	Youghiogheny Coal Co.,	Westmoreland,	J. B. Stone,	Scott Haven.
Gospel,	H. D. O'Neil,	Allegheny,	H. D. O'Neil	Elizabeth.
Hazlett slope,	McClure Coke Co.,	Westmoreland,	O. W. Kennedy,	Scottdale.
Henry Clay,	H. C. Frick Coke Co.,	Fayette,	William C. Muller,	Broad Ford.
Horners & Roberts,	Elizabeth Mining Co.,	Allegheny,	Archie Cowan	Elizabeth.
Home Works,	Stouffer & Wiley,	Fayette,	John W. Wiley,	Everson
Jackson,	James Cochran,	Fayette,	P. G. Cochran,	Dawson
Lynch,	H. D. Lynch,	Allegheny,	H. D. Lynch,	McKeesport.
Lovedale,	John A. Wood,	Allegheny,		
Mullin	McClure Coke Co.,	Westmoreland,	James Dumphy	Stouffers.
Mayfield,	McClure Coke Co.,	Westmoreland,	O. W. Kennedy	Scottdale
Morgan,	H. C. Frick Coke Co.,	Fayette,	Wm. C. Muller	Broad Ford.
Ocean No. 1,	Youghiogheny River Coal Co.,	Westmoreland,	J. B. Stone,	Scott Haven.
Ocean No. 2,	Youghiogheny River Coal Co.,	Allegheny,	J. B. Stone	Scott Haven.
Ocean No. 4,	Youghiogheny River Coal Co.,	Allegheny	J. B. Stone	Scott Haven.
Ocean No. 5	Youghiogheny River Coal Co.,	Allegheny	J. B. Stone	Scott Haven.
Osceola	Osceola Coal Co.,	Allegheny	James W. Shiras	Dunbar.
Pan Se.	Youghiogheny River Coal Co.,	Allegheny	J. B. Stone	Scott Haven.

TABLE No. 1.—Continued.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Postoffice Address.
Pacific,	J. W. Painter Coal Co.,	Allegheny,	Robert Carnell,	McKeesport.
Port Royal,	Port Royal Coal and Coke Co.,	Westmoreland,	William Goodfellow,	Fitz Henry.
Plumer,	H. C. Frick Coke Co.,	Fayette,	John I. Munson,	Connellsville.
Pennsville,	J. D. Sherrick & Co.,	Fayette,	John D. Sherrick,	Pennsville.
Painter,	McClure Coke Co.,	Fayette,	John H. Culler,	Scottdale.
Rainbow,	Rainbow Coal Co.,	Fayette,	John Morris,	Whitsett.
Rist,	H. C. Frick Coal Co.,	Fayette,	Wm. C. Mullen,	Broad Ford.
Rising Sun,	McClure Coke Co.,	Westmoreland,	James Devlin,	Mount Pleasant.
Sarah,	Douglas Coal Co.,	Allegheny,	John Thomas,	West Newton.
Scottdale Iron and Steel Co.	A. S. Livengood,	Fayette,	A. S. Livengood,	Everson.
Shaners No. 2,	Criterion Coal Co.,	Westmoreland,	Walter O'Malley,	Youghiogheny.
Smithton No. 2,	Waverly Coal and Coke Co.,	Westmoreland,	John Harris,	Smithton.
Sterling No. 1,	H. C. Frick Coke Co.,	Fayette,	.....	.....
Sterling No. 2,	H. C. Frick Coke Co.,	Fayette,	.....	.....
Summit,	H. C. Frick Coke Co.,	Fayette,	Wm. C. Mullen,	Broad Ford.
Tip Top,	H. C. Frick Coke Co.,	Fayette,	James Lynch,	Valley Works.
Tyrone,	Laughlin & Co., Limited,	Fayette,	Clifton Wharton,	Broad Ford.
Union,	McClure Coke Co.,	Westmoreland,	Braden Hurst,	Alverton.
Valley,	H. C. Frick Coke Co.,	Fayette,	James Lynch,	Valley Works.
West Overton,	H. C. Overholt,	Westmoreland,	B. F. Overholt,	West Overton.
West Newton,	Osborn, Saeger & Co.,	Westmoreland,	W. T. Allison,	West Newton.
Wick Haven,	Youghiogheny Mining Co.,	Fayette,	Frank Morrison,	Banning.
White,	H. C. Frick Coke Co.,	Fayette,	Wm. C. Mullen,	Broad Ford.
Yough Slope,	Columbia Gas Coal Co.,	Westmoreland,	Charles K. McCaffrey,	West Newton.

TABLE No. 2.—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employes, number of persons killed or injured, number of kegs of powder used, &c., in the Ninth Bituminous Mining District, for the year ending December 31, 1896.

Names of Collieries.	Location—County.	Total production in tons of coal.	Total production in tons of coke.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Number coke ovens.
Adelaide,	Fayette,	160,490	105,400	.....	256	202	.....	.....	.....	4	23	.....	342
Amyville,	Westmoreland,	44,988	.....	44,988	132	107	.....	.....	100	.....	8	.....	.....
Browns No. 2,	Allegheny,	74,122	.....	73,695	136	212	.....	.....	50	.....	14	.....	.....
B. & O.,	Fayette,	42,550	.....	42,550	366	27	.....	.....	.....	2	2	.....	.....
Banning,	Fayette,	257,053	.....	254,853	269	240	.....	3	400	8	15	.....	.....
Belle Bridge,	Allegheny,	39,847	.....	39,847	104	159	1	.....	.....	4	5	.....	.....
Big Chief,	Westmoreland,	74,880	.....	74,880	167	168	.....	.....	6	1	7	.....	.....
Buckeye,	Westmoreland,	46,007	31,875	.....	158	114	.....	.....	.....	5	18	.....	160
Bessemer,	Westmoreland,	11,921	7,887	.....	86	160	.....	.....	.....	2	25	.....	273
Coal Brook,	Fayette,	68,331	46,469	.....	198	103	.....	.....	.....	2	7	.....	120
Davidson shaft,	Fayette,	132,000	100,900	.....	252	176	.....	1	.....	9	18	.....	330
Dexter,	Fayette,	11,388	11,228	160	205	26	.....	.....	15	.....	3	.....	40
Donnelly,	Westmoreland,	14,686	9,984	.....	40	175	.....	.....	.....	4	10	.....	252
Darr,	Westmoreland,	291,731	.....	291,731	270	365	3	8	200	8	15	.....	.....
Dillworth,	Westmoreland,	300	.....	300	2	.....	.....	.....	.....	.....	.....	.....	.....
Dravo,	Allegheny,	24,687	.....	24,677	149	123	.....	.....	200	.....	9	.....	.....
Diamond,	Fayette,	2,384	1,645	.....	17	47	.....	.....	.....	.....	3	.....	66
Eureka,	Westmoreland,	180,000	.....	180,000	220	157	1	1	500	2	11	.....	.....
Emma,	Westmoreland,	10,494	8,347	288	203	23	.....	.....	.....	1	2	.....	36
Euclid,	Westmoreland,	55,279	294	55,279	113	95	2	1	250	3	6	.....	96
Franklin,	Fayette,	16,320	12,242	.....	211	32	.....	1	.....	1	4	.....	50
Fort Hill,	Fayette,	212,000	148,000	.....	275	280	.....	4	.....	5	26	.....	319
Forest Hill,	Allegheny,	339,080	.....	333,700	265	281	2	.....	968	5	20	1	.....
Grace,	Fayette,	240,784	160,723	2,782	276	273	1	1	600	8	14	.....	408

Table No. 2.—Continued.

Names of Operators.	Location—County.	Total production in tons of coal.	Total production in tons of coke.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Number coke ovens.
Gospel,	Allegheny,	5,197	.....	5,197	240	90	.....	3	150	2	7	.....	.....
Guffey,	Westmoreland,	158,432	.....	158,432	219	257	1	.....	400	.....	17	.....	.....
Henry Clay,	Fayette,	92,000	60,000	.....	256	121	.....	.....	.....	.....	9	.....	120
Horners & Roberts,	Allegheny,	41,800	.....	41,800	150	159	.....	2	75	4	8	.....	.....
Home Works,	Fayette,	9,521	1,290	.....	179	11	.....	.....	.....	.....	1	.....	20
Hazlett slope,	Westmoreland,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jackson,	Fayette,	43,080	28,720	.....	288	51	.....	.....	.....	1	6	.....	58
Lynch,	Allegheny,	5,550	.....	5,550	200	14	.....	.....	.....	.....	1	.....	.....
Mullin,	Westmoreland,	32,822	22,748	948	198	74	.....	.....	.....	3	7	.....	82
Mayfield,	Westmoreland,	309	215	.....	4	35	.....	.....	.....	1	5	.....	104
Morgan,	Fayette,	18,200	.....	.....	148	20	.....	.....	.....	.....	.....	.....	.....
Ocean No. 1,	Westmoreland,	179,230	.....	179,230	225	361	2	4	420	4	13	1	.....
Ocean No. 2,	Allegheny,	280,549	.....	280,549	265	492	1	.....	500	2	15	1	.....
Ocean No. 4,	Allegheny,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ocean No. 5,	Allegheny,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Osceola,	Allegheny,	132,284	.....	132,567	231	206	1	.....	220	3	15	.....	.....
Pacific,	Allegheny,	141,403	.....	141,403	224	265	.....	2	.....	.....	11	1	.....
Painter & Cornell,	Allegheny,	234,437	29,454	170,349	275	253	1	.....	80	.....	3	.....	.....
Port Royal No. 1,	Westmoreland,	.....	.....	.....	.....	.....	.....	2	1,069	13	30	1	60
Port Royal No. 2,	Westmoreland,	28,000	.....	.....	105	54	.....	.....	.....	.....	.....	.....	.....
Plummer,	Fayette,	31,515	25,111	.....	221	62	.....	.....	250	2	4	.....	.....
Pennsville,	Fayette,	65,785	45,337	.....	109	47	.....	.....	55	3	4	.....	92
Painter,	Fayette,	18,500	.....	18,500	103	86	.....	.....	100	2	8	1	223
Rainbow,	Fayette,	130,620	.....	130,620	201	237	1	1	550	2	10	.....	.....
Rist,	Fayette,	122,800	92,900	.....	187	195	.....	.....	330	4	13	.....	367
Rising Sun,	Westmoreland,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sarah,	Allegheny,	300	.....	250	7	20	.....	.....	2	1	3	.....	.....
Scottdale Iron and Steel Co.,	Fayette,	23,150	.....	23,150	221	29	.....	.....	50	1	1	.....	.....
Shaners No. 2,	Westmoreland,	54,000	.....	54,000	160	115	.....	.....	200	2	12	.....	.....

Smithton No. 2	[illegible]	[illegible]	[illegible]	63,749	144	256			700	2	10	.....	117
Sterling No. 1	Fayette	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sterling No. 2	Fayette	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Summit	Fayette	23,000	28,000	.....	97	79	.....	1	100	1	9	.....	222
Tyrone	Fayette	111,784	79,843	.....	312	108	.....	2	300	1	15	.....	141
Tip Top	Fayette	4,500	2,094	.....	14	63	.....	..	.....	1	11	.....	24
Union	Westmoreland	14,788	23,589	.....	245	36	.....	.....	.....	2	9	.....	70
Valley	Fayette	55,500	202,400	.....	256	182	1	....	1,000	4	17	.....	251
West Overton	Westmoreland	70,027	58,183	.....	307	102	.....	..	.....	.....	2	.....	110
West Newton	Westmoreland	250,700	.....	252,531	270	221	.....	2	400	6	12	.....	.....
Wick Haven	Fayette	196,556	.....	196,556	243	202	.....	1	1,305	4	10	.....	.....
White	Fayette	45,000	28,840	.....	138	91	.....	.....	105	1	10	.....	200
Yough slope	Westmoreland	54,860	.....	38,398	190	84	1	1	240	3	6	.....	.....
Total	.....	[illegible]	[illegible]	3,339,497	11,112	8,272	19	47	11,380	149	586	6	4,697

TABLE No. 3.—Showing the number of each class of employes at each colliery in the Ninth Bituminous Mine District, during the year 1896.

Names of Collieries.	Location—County.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							
		Inside foreman or mine boss.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Doorboys and helpers.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All company men.	Superintendents, bookkeepers and clerks.	Total outside.	Grand totals inside and outside.
Adelaide,	Fayette,	1	89	2	12	7	3	115	1	4	7	58	16	1	87	202
Amyville,	Westmoreland,	1	85	5	2	5	.....	98	1	1	.....	.....	5	1	9	107
Browns No. 2,	Allegheny,	1	146	20	4	14	2	187	1	3	4	.....	16	1	25	212
B. & O.,	Fayette,	1	21	.....	2	1	.....	25	.....	.....	1	.....	1	.....	2	27
Banning,	Fayette,	1	197	6	6	11	2	223	1	2	3	.....	10	1	17	240
Belle Bridge,	Allegheny,	1	125	8	7	4	1	146	.....	1	1	.....	10	1	13	159
Big Chief,	Westmoreland,	1	130	10	10	6	3	160	.....	1	1	.....	6	1	9	169
Buckeye,	Westmoreland,	1	56	.....	6	5	2	70	1	1	1	35	6	.....	44	114
Bessemer,	Westmoreland,	1	73	.....	2	6	4	86	1	3	1	64	4	1	74	160
Coal Brook,	Fayette,	1	52	.....	5	4	.....	62	1	1	.....	32	6	1	41	103
Davidson shaft,	Fayette,	1	77	3	10	8	.....	99	1	3	9	46	17	1	77	176
Dexter,	Fayette,	1	12	.....	1	2	.....	16	.....	.....	.....	10	.....	1	11	27
Donnelly,	Westmoreland,	1	76	.....	7	5	3	92	1	2	3	68	8	1	83	175
Darr,	Westmoreland,	1	280	4	30	16	2	333	1	3	5	.....	22	1	32	365
Dravo,	Allegheny,	1	96	7	2	7	2	115	.....	1	.....	.....	5	2	8	123
Diamond,	Fayette,	1	18	.....	2	3	.....	24	.....	.....	.....	18	5	.....	23	47
Eureka,	Westmoreland,	1	116	8	3	10	3	141	1	2	3	.....	9	1	16	157
Emma,	Westmoreland,	1	8	.....	1	2	.....	12	.....	.....	1	7	.....	2	10	22
Euclid,	Westmoreland,	1	75	4	2	4	1	87	.....	1	3	.....	3	1	8	95
Franklin,	Fayette	1	15	.....	1	3	.....	20	.....	.....	1	12	2	1	16	36
Fort Hill,	Fayette,	1	160	.....	7	14	1	181	.....	3	5	80	10	1	99	280
Forrest Hill,	Allegheny,	1	209	12	6	16	4	248	1	3	6	.....	21	2	33	281
Grace,	Fayette,	1	150	6	3	14	3	177	1	4	5	75	6	5	96	273

Gospel	Allegheny	1	65	2	4	5	2	79	1	3	2	.....	6	1	11	90
Guffey	Westmoreland	1	225	.....	5	13	.....	244	.....	2	.....	.....	11	.....	13	257
Henry Clay	Fayette	1	52	1	8	6	.....	68	.....	1	1	12	5	2	33	121
Herner & Roberts	Allegheny	1	128	2	5	9	2	147	.....	2	2	.....	6	2	12	159
Home Works	Fayette	.....	6	.....	1	.....	.....	7	1	.....	.....	4	.....	.....	5	12
Hazlett slope	Westmoreland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jackson	Fayette	1	21	.....	4	4	.....	30	.....	1	.....	15	3	2	21	51
Lynch	Allegheny	1	9	.....	1	1	.....	12	.....	.....	.....	.....	1	1	2	14
Mullin	Westmoreland	1	35	.....	3	3	1	43	.....	1	2	23	4	1	31	74
Mayfield	Westmoreland	1	15	.....	1	3	.....	20	.....	.....	.....	13	1	1	15	35
Morgan	Fayette	1	15	.....	2	2	.....	20	.....	.....	.....	.....	.....	.....	.....	20
Ocean No. 1	Westmoreland	1	300	.....	10	17	4	332	.....	3	5	.....	21	.....	29	361
Ocean No. 2	Allegheny	1	430	25	4	15	.....	475	1	3	.....	.....	12	1	17	492
Ocean No. 4	Allegheny	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ocean No. 5	Allegheny	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Osceola	Allegheny	1	175	3	4	7	.....	190	1	2	3	.....	8	3	17	207
Pacific	Allegheny	1	233	.....	9	10	1	254	.....	2	.....	.....	9	.....	11	265
Painter & Cornell	Allegheny	1	68	5	1	3	.....	78	1	1	.....	.....	5	1	8	86
Port Royal No. 1	Westmoreland	1	135	8	43	12	8	207	.....	5	10	15	13	3	46	253
Port Royal No. 2	Westmoreland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Plummer	Fayette	1	42	2	1	4	.....	50	.....	2	.....	.....	2	.....	4	54
Pennsville	Fayette	1	28	.....	1	2	.....	32	1	1	3	20	4	1	30	62
Painter	Fayette	1	59	.....	11	7	1	79	1	2	1	50	13	1	68	147
Rainbow	Fayette	1	200	.....	14	7	2	224	1	1	3	.....	7	1	13	237
Rist	Fayette	1	73	12	5	9	1	101	1	1	2	76	13	1	94	195
Rising Sun	Westmoreland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sarah	Allegheny	1	16	1	.....	1	.....	19	.....	.....	.....	.....	.....	1	1	20
Scottdale Iron & Steel Co	Fayette	1	19	.....	1	3	.....	24	.....	.....	.....	.....	3	2	5	29
Shamers No. 2	Westmoreland	1	85	1	4	7	3	101	.....	2	3	.....	8	1	14	115
Smithton No. 2	Westmoreland	1	140	4	3	8	2	158	1	3	3	31	9	2	49	207
Sterling No. 1	Fayette	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sterling No. 2	Fayette	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Summit	Fayette	1	37	.....	1	5	.....	44	.....	1	.....	29	4	1	35	79
Tyrone	Fayette	1	40	.....	10	7	4	62	.....	2	1	40	2	1	46	108
Tip Top	Fayette	1	28	.....	2	3	1	35	.....	1	.....	23	3	1	28	63
Union	Westmoreland	1	18	.....	1	3	1	24	1	.....	.....	8	2	1	12	36
Valley	Fayette	1	75	.....	3	9	6	94	1	2	3	70	11	1	88	182
West Overton	Westmoreland	1	47	4	1	3	.....	56	1	2	.....	39	2	2	46	102
West Newton	Westmoreland	1	160	9	8	15	10	202	1	2	6	.....	8	1	18	221
Wick Haven	Fayette	1	166	.....	8	10	.....	185	1	1	3	.....	11	1	17	202
White	Fayette	1	41	1	3	5	.....	51	.....	1	1	34	3	1	40	91
Yough slope	Westmoreland	1	58	1	4	4	1	72	.....	2	5	.....	3	2	12	84
Total		57	5,530	179	316	389	86	6,557	28	89	121	1,037	401	68	1,744	8,281

TABLE No. 4.—List of fatal accidents that occurred in and about the mines of the Ninth Bituminous Mine District, for the year ending December 31, 1896.

Date of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Feb. 13,	John William Crossland,	Laborer,	15	....	....	Forrest Hill,	Allegheny,	Instantly killed by falling through tipple a distance of 30 feet.
29,	Albert Peterson,	Miner,	34	W.	1	Darr,	Westmoreland,	Killed almost instantly by fall of slate.
Mch. 18,	William Sinder,	Miner,	26	W.	2	Belle Bridge,	Allegheny,	Fatally injured by being squeezed between loaded trip and rib; died 3 days after.
19,	Alexander Johnson,	Miner,	18	....	....	Ocean No. 1,	Westmoreland,	Instantly killed by electric current.
21,	Alexander McDonald,	Fire boss,	45	W.	3	Euclid,	Westmoreland,	Killed by an explosion of gas.
21,	John William Davis,	Water hauler,	14	....	....	Euclid,	Westmoreland,	Killed by an explosion of gas.
April 20,	Samuel Calaheese,	Miner,	37	W.	1	Darr,	Westmoreland,	Instantly killed by a fall of coal.
July 1,	Steve Bovala,	Miner,	20	W.	1	Grace,	Fayette,	Killed by the cage in an air shaft.
14,	Mike Molasky,	Miner,	19	S.	....	Darr,	Westmoreland,	Fatally injured by a fall of coal; died from shock from amputation of leg.
21,	Steve Prebula,	Miner,	39	W.	4	Rainbow,	Fayette,	Instantly killed by a fall of slate and coal.
Aug. 26,	Paul Ginder,	Miner,	18	S.	....	Eureka,	Westmoreland,	Killed by a fall of slate.
Sept. 4,	James S. Grant,	Driver,	26	S.	....	Valley,	Fayette,	Killed by a loaded trip of cars running on him.
12,	William Chappel,	Machine miner,	20	S.	....	Ocean No. 1,	Allegheny,	Fatally injured by having his leg torn off by a coal cutting machine. Died three days after.
Nov. 2,	Petro Cassia,	Miner,	45	W.	3	Osceola,	Allegheny,	Instantly killed by a fall of slate.
3,	John Lang,	Miner,	40	W.	3	Yough slope,	Westmoreland,	Instantly killed by leaning against electric cable wire in the entry.
16,	Joseph Janette,	Miner,	26	S.	....	Guffey,	Westmoreland,	Instantly killed by a fall of slate in his room.
27,	Andy Buggy,	Miner,	28	S.	....	Painter & Cornell,	Allegheny,	Instantly killed by a fall of slate in his room.
Dec. 5,	Frank Griffin,	Miner,	48	S.	....	Ocean No. 1,	Westmoreland,	Instantly killed by a fall of slate in his room.
29,	Joe Bastate,	Machine miner,	32	W.	2	Forrest Hill,	Allegheny,	Instantly killed by a fall of roof coal.

TABLE No. 5.—List of non-fatal accidents that occurred in and about the Mines of the Ninth Bituminous Mine District, for the year ending December 31, 1896.

Date of accident		Name of Person.	Occupation.	Age.	Married.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan.	2.	William Gaskell,	Driver,	29	M.	Davidson shaft,	Fayette,	Leg broken by loaded wagons.
	3	John Henlet,	Driver,	22	S.	Moreland slope,	Fayette,	Head badly cut by being squeezed between wagon and rib.
	4.	Mike Gousage,	Miner,	26	S.	Moreland slope,	Fayette,	Leg broken by fall of roof coal.
	6.	Frank Basinka,	Miner,	30	S.	Darr,	Westmoreland,	Back severely injured by a fall of roof coal.
	7.	Charles Buchinska,	Miner,	23	S.	Port Royal,	Westmoreland,	Both legs broken by a fall of slate.
	13.	George Bull,	Driver,	24	M.	Summit,	Fayette,	Leg badly bruised by wagons.
Feb.	20.	Steve Mabuck,	Miner,	23	S.	Grace,	Fayette,	Squeezed between a wagon and rib.
	27.	Mike Strahon,	Miner,	50	M.	Moreland slope,	Fayette,	Face badly cut by a post which was knocked out by a fall.
April	6.	Mike Musser,	Miner,	30	M.	Moreland slope,	Fayette,	Leg broken by a fall of roof.
	7.	Robert Whitelaw,	Miner,	56	M.	Euclid,	Westmoreland,	Foot mashed by a piece of coal.
	10.	M. S. Brown,	Miner,	35	S.	Horners & Roberts,	Allegheny,	Back, arms and face severely burned by exploding gas.
	20.	Peter Wysker,	Miner,	27	M.	Horners & Roberts,	Allegheny,	Face and arms burned by exploding gas.
	25.	George Saurs,	Driver,	22	S.	Tyrone,	Fayette,	Leg badly cut by loaded trip.
	28.	Henry Burgois,	Miner,	17	S.	Gospel,	Allegheny,	Back badly hurt by a fall of slate.
June	1.	Earl Rutengur,	Driver,	29	M.	Franklin,	Fayette,	Head and collar bone hurt by a loaded trip.
	2.	Joseph Valetta,	Miner,	25	M.	Wick Haven,	Fayette,	Leg broken by a fall of slate.
	8.	Frank Batch,	Machine miner,	27	M.	Gospel,	Allegheny,	Leg broken by a blown out shot.
	8.	John Sore,	Miner,	30	M.	Port Royal,	Westmoreland,	Body injured by a dilly trip.
	16.	Dick Fordner,	Miner,	24	M.	Gospel,	Allegheny,	Leg broken by a fall of slate.
	19.	Jacob Nickale,	Miner,	56	M.	West Newton shaft,	Westmoreland,	Injured on back and head by a fall of roof.
	23.	Kazeny Chuckle,	Miner,	31	S.	Banning,	Fayette,	Head and breast badly cut by a fall of slate.
	23.	Peter Madera,	Miner,	25		Darr,	Westmoreland,	Leg broken by fall of coal.
July	8	Steve Pitkes,	Miner,	25		Darr,	Westmoreland,	Leg badly injured by fall of coal.

Table No. 5.—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married.	Name of Colliery.	Location County.	Nature and Cause of Accident.
July 8.	Andrew Kender,	Machine miner,	...	...	Darr,	Westmoreland,	Back, arms and face burned by explosion of gas.
8.	John Williams,	Machine miner,	...	...	Darr,	Westmoreland,	Burned slightly on hands and face by explosion of gas.
21.	Ed. Cline,	Miner,	30	S.	Ocean No. 1,	Westmoreland,	Shoulder dislocated by a fall of coal and slate.
25.	Mike Monarta,	Miner,	23	S.	Ocean No. 1,	Westmoreland,	Leg broken by a fall of slate.
Aug. 19.	Chas. Sethman,	Miner,	26	M.	Banning,	Fayette,	Leg badly bruised by a fall of slate.
Sept. 7.	Joseph Schacto,	Miner,	40	M.	Ocean No. 1,	Westmoreland,	Ribs broken and face badly bruised by a blown out shot.
7.	Steve Matto,	Miner,	29	M.	Darr,	Westmoreland,	Leg broken by a fall of slate.
12.	John Nabble,	Driver,	31	S.	Rainbow,	Fayette,	Bruised on hip joints by a loaded trip.
24.	John Pudor,	Miner,	37	M.	Darr,	Westmoreland,	Leg broken and otherwise injured by a fall of slate.
30.	Burt Fibower,	Miner,	45	S.	Tyrone,	Fayette,	Shoulder fractured by wagons.
Oct. 23.	Frank Chable,	Miner,	20	S.	West Newton shaft,	Westmoreland,	Body badly crushed by a fall of slate.
23.	Rock Boset,	Miner,	18	S.	Pacific,	Allegheny,	Face and arms burned by an explosion of gas.
Nov. 3.	James Chambers,	Miner,	48	M.	Yough slope,	Westmoreland,	Collar bone dislocated by wagons.
27.	William Webster,	Driver,	29	M.	Pacific,	Allegheny,	Leg broken by being caught between cars of a loaded trip.
Dec. 1.	Joseph Yaughman,	Miner,	46	M.	Banning,	Fayette,	Leg broken at ankle by slate.
4.	Peter Jore,	Miner,	35	M.	Eureka,	Westmoreland,	Bad scalp wound from fall of roof coal.
2.	Lewis Gahee,	Miner,	30	M.	Darr,	Westmoreland,	Arm broken by a fall of slate.
21.	Lewis Spiacha,	Miner,	22	S.	Ocean No. 1,	Westmoreland,	Leg broken by coal rolling on him.

TENTH BITUMINOUS DISTRICT.

(HUNTINGDON, BEDFORD, FULTON AND BLAIR COUNTIES, AND THOSE PARTS OF CLEARFIELD, CAMBRIA AND INDIANA COUNTIES LYING ADJACENT TO THE BELLS GAP RAILROAD, AND THOSE PARTS OF CLEARFIELD, CENTRE AND CLINTON COUNTIES LYING ADJACENT TO THE MAIN LINE OF THE BEECH CREEK RAILROAD.)

Altoona, Pa., Feb. 11, 1897.

Hon. James W. Latta, Secretary of Internal Affairs, Harrisburg, Pa.:

Sir:—In accordance with the requirements of Section 11, of Article 10, of the act of Assembly, approved May 15th, 1893, I have the honor to submit the annual report of the Tenth Bituminous District for the year ending December 31st, 1896.

There has been a slight increase in the quantity of coal mined and shipped, also in the amount of coke produced. The number of employes is also greater, and also the average number of days worked during the year. The number of fatal and non-fatal accidents is less than that of the preceding year. The coal trade is still very much depressed, and the earnings of the miners have been small. The general condition of the mines was good, and improvements are being made in the way of haulage by means of rope and electric power, while at some of the mines fans have taken the place of furnaces as a means of ventilation, and this is a step in the right direction, for furnaces while sufficient for small mines, are not adequate for ventilating the large ones so that it is only a question of time before fans will be needed at the majority of the mines, and it would be greater economy to put in a fan in the first place. The accidents this year seem to show a want of care on the part of those killed, but this remark will at the same time apply to all sections where mining accidents happen. The accidents are recorded in their proper place, with a brief description showing how each one occurred. I have also briefly recorded the condition of each mine as regards ventilation and drainage, and have compiled a summary showing the production, etc., for this year, and also for the preceding year for comparison. The report is respectfully submitted.

R. HAMPSON.

Summary of Statistics.

	1895.	1896.
Number of mines in the district, ...	68	68
Number of mines operated during the year, ...	61	59
Number of tons of coal produced, ...	2,708,271	2,857,096
Number of tons of coal shipped, ...	2,485,246	2,552,960
Number of tons of coke produced, ...	142,221	175,614
Number of persons employed inside, ...	4,537	4,953
Number of persons employed outside, ...	561	436
Total inside and outside, ...	5,098	5,389
Number of fatal accidents, ...	5	4
Number of non fatal accidents, ...	25	18
Number of tons of coal per fatal accident,	541,654	714,274
Number of tons of coal per non-fatal accident, ...	108,330	158,724
Number of kegs of powder used, ...	17,066	14,442
Average number of days worked during the year, ...	165	175

Descriptions of the Mines.

The mines at Snow Shoe, belonging to the Lehigh Valley Coal Co., did not work very much during the first half of the year, but after that they worked steadily, and are now doing a good business, and a great many men are employed. They have commenced work again in No. 2 mine which had been shut down for a long time. No. 3 is mostly confined to pillar drawing. No. 4 is where the greater number of men are working, and they have done considerable work in making a new haulage road, and in driving headings, and are now in condition for a good production of coal from this mine. Careytown mine belonging to the same company, has not been operated very steadily, and about twenty miners only are employed here, working coal that was left a good many years ago. The ventilation and drainage of the mines were good.

Kelly and Nugent, operating the Cato mine, have done little work and have not developed the mine much during the year. The condition of the mine was good.

Cherry Run, operated by Holt & Co., has done a good business, and they have pushed the heading work very much during the year. They are greatly annoyed with small local dips, and the drainage is not good. They built a new furnace and the ventilation of the mine was fair.

Kelly Brothers have done very little business, but their mine was in good condition.

Tunnel mine, operated by King and Boak, at Gorton Heights, has been confined to drawing pillars, and will not last much longer. The general condition of the mine was fair.

Grass Flat mine has worked very well, and a great deal of heading work was done, and the rope road has been graded preparatory to lengthening the rope for a distance of two thousand feet, and this will cut off a long and disagreeable mule haulage. The ventilation at the face of the new headings was not very good, until they got the fan at work, but since that time it has been all right. They are still troubled with dips and much difficulty is experienced in getting a water level to carry off the water.

Knox Run mine has been pushed ahead during the year, and the ventilation and drainage of the mine were good, and the same remarks will apply to the Moravian and Pleasant Hill mines of the same company, which have been kept up to the standard required by law.

The above four mines are owned and operated by the Clearfield Bituminous Coal Corporation.

Somerville mine, operated by Somerville and Buchanan, was found in good condition during the year, and they have pushed the heading work ahead and are prepared to do a good business.

Forest mines 1 and 2, operated by O. P. Jones & Co., have done little business, but were found in good condition on my visits made during the year. The new furnace in No. 1 does good work for the right side of that mine, and also for No. 2 mine. A new opening adjacent to No. 2 was put in during the year to get at a body of coal that could not well be reached from No. 2.

Kyler mine, operated by R. C. Fishburn, has done little during the year, but was found in good condition.

Douglass slope, operated by Allen Somerville, was found in good condition at each of the visits made. They have overhauled the hoisting machinery and put in a new boiler and are now in good condition for work.

Royal slope, operated by O. P. Jones & Co., has done quite a business, and a great deal of work was done in the mine, as they have pushed the slope to the boundary line, retimbered all of the main headings and put in a large Davidson pump in the dip workings. During the spring a cloudburst took place near the mine and the result was, that the water poured into the mine in great volumes and drowned out the dip workings, but fortunately no men were at work at the time, or the results might have been serious. The general condition of the mine is very good.

O'Shanter mines 1 and 2, operated by Weaver & Ettla, have worked very well. No. 1 mine is confined to drawing out the pillars, and will soon be finished. No. 2 mine is in for quite a dis-

tance, and the ventilation at the face of the heading was not sufficient for the number of men at work, so the operators are now putting in an opening for ventilation, and when this is completed the mine will be in good condition.

Bloomington mines, operated by the Bloomington Coal Mining Co., have not done much business during the year. No. 3 mine was in good condition as regards ventilation, but the roads were in poor condition as they have to haul the water out of the dips, which makes the roads very muddy. No. 4 mine was also found in good condition, and here they are making preparations to put in a haulage plant, as the distance is getting too great for the mules to travel. The new slope that was started last year has not been advanced, as they are waiting for better times.

Gazzam mines, operated by the Clearfield Bituminous Coal Corporation, has been operated regularly during the year, and in No. 1 mine they have pushed the headings right along, but have had much trouble on account of dips. The ventilation was not good during the greater part of the year, but they have now put in a Stine fan, and this has improved the ventilation of the South side very much, and now the furnace has to ventilate only the North side workings. The mine is now in good condition. At No. 4 mine they are still worrying along and trying to get into better coal but have not yet succeeded. A new furnace has been built during the year and the ventilation of the mine has been improved.

Urey mines, operated by the Urey Ridge Coal Co., have done very little work during the year, but the ventilation and the drainage of the mines were found good at the different visits.

Penn mine, operated by Reakirt Brothers, was found in good condition as regards drainage and ventilation. They have made a connection on top of the hill with an old opening, and this makes an inlet right at the face of the workings, and they are preparing to enlarge this old opening, and make a haulage drift out of it, and they will built a tramroad around the face of the hill to the tipple, to avoid the heavy grades inside the mine. This will allow them to pull the pillars out of the old mine.

Glenwood mines, operated by the Glenwood Coal Co., have done little work during the year. They have put in a new opening which will cut off all the work on top of the hill in No. 4 mine, and make a much easier haul for them than at present. The ventilation of the mine was good during the year. At No. 2 mine they have done very little work so the contemplated improvements have not been made.

National mine, operated by the Philadelphia Coal and Coke Co., was found in good condition at each visit. During the latter part of the year the mine was closed for an indefinite period.

Irvona mine, operated by the Irvona Coal Co., has done little work and they are still troubled with rock rolls and dips, but the mine was looking more promising on my last visit, and it is to be hoped the operators will get into better coal, for they have had a great deal to discourage them. The ventilation of the mine was very fair.

Oakland mine, operated by Hegarty Brothers, was visited once only during the year as they have done very little work. The ventilation was fair.

Mountaindale mine, operated by the Bear Ridge Coal Co., has been operated fairly well during the year. The old mine is now finished, and they are at work in a narrow strip of coal left in one of the mines. The ventilation was in very fair condition at each of my visits, although the mine boss has hard work to keep the air from scattering, as there are so many places for it to leak into the old workings.

Eldorado mine, operated by the Mountaindale Collieries Co., has been operated fairly well during the year, and they have pushed the heading work in the dip portion of the mine, and are still pushing the main heading so as to get through the hill, but they have met with some difficulties.

They have two furnaces at work, and the ventilation was good at each visit.

Blands mine was operated fairly well but not many men were employed as the coal is used for supplying the engines on the Bells Gap R. R. The general condition of the mine was good.

Frick's mine, operated by Max Frick, was found in good condition, and everything was well looked after. The old mine was abandoned early in the year, and now the men are all at work in the new mine. The roof in the new mine is as poor as it was in the old one, and it needs much care on the part of the mine foreman, and the miners to keep themselves safe.

Great Bend mine, operated by the Great Bend Coal Co., was not found in good condition, as the furnace was not adequate for ventilating the mine, so I requested the owners to put down a new shaft on top of the hill.

Woodvale shaft, operated by the Rockhill Iron and Coal Co., was found in good condition during the year, but they are still troubled very much with rolls and dips, and they are now endeavoring to get around the fault lying to the south of the shaft. The engine used for hoisting has been replaced by one much larger, and this will be fully able to do all the work required. Robertsdale mine, owned by the same company, has worked fairly well, and much work has been done in opening up the coal in the "Rock Cut" and a great many of the miners from the back end of the mine have been put to work in this portion. The ventilation of the new portion at my

last visit was not very good, owing to the airway not being solid, as it had to pass alongside a portion of the mine that had caved in, and there the air was leaking. A new airway is being made in the solid, and when completed it will make the ventilation all right. A very large pump has been put in during the year, and this is fully capable of keeping down the large volume of water that is encountered here at times.

Fisher mine was found in good condition at each of my visits, and as the old mine had struck a very large roll, they have opened a piece of coal lying between the two drifts, so that as the men finish in the old mine, they are put in the new opening.

Ocean Mine No. 1, operated by W. H. Sweet, has had a few men only at work during the year, and they have cut through another rock roll and got into a body of good coal, and the ventilation was good.

Ocean Mine No. 2 was in about the same condition as last year, and they are still troubled with steep pitches, and have met with a fault in the main heading that has thrown them off their course somewhat.

Huntingdon mines 1 and 2 have cut into each other during the year; the general condition of the mine was fair. Carbon mine is still encountering faults, and a few miners only are at work trying to get around the fault. These mines are owned and operated by W. H. Sweet.

Benedict mine, operated by W. W. Reed, has been operated fairly well during the year, and was in good condition up to the time of my last visit. The mine is getting in a long distance, and the furnace is too small for the purpose required. They are endeavoring to cut into the old Benedict mine, and when this is done it will help them very much. They are troubled with a very bad roof, and it needs much watching to prevent accidents.

Durham mine has been opened this year by the Kemble Iron Co. and the work has been pushed right along, and they have sunk the slope so as to get headings to the right and left, and everything has been done in a proper manner and they have a mine that reflects credit on the management. The ventilation at one time was very poor as they could not get a connection with the Mt. Equity mine as quickly as was anticipated, but now the mine is in good condition. The Mt. Equity mine was abandoned during the year, and the men all transferred to the Durham.

Delta mine, operated by the Delta Coal Co., has done nothing but develop their mine during the year, and now they have got to the face of the old mine, and are ready to turn headings off. The ventilation was very fair.

Harvey slope, operated by the Harvey Mining Co., has been worked very little this year, and the condition of the mine was fair. Some

of the headings on the steep pitches were deficient in ventilation, but these have been abandoned, and the work confined to the level part of the mine.

Cunard mine, operated by the Morrisdale Coal Co., was found deficient in ventilation at the workings at the top of the plane, and also in the new workings near the foot of the shaft. The company has secured a lease of the coal lying to the north of the shaft and they are opening it up, and they expect to cut into the old Piper workings in a short time, and this will make a great improvement in the condition of the mine.

New Hampshire mine, operated by the Davis Coal Co., has done very little work during the year, but they have made strenuous efforts to improve the condition of the mine, and at my last visit the mine was in a little better condition, and in a short time will be in good condition.

Elmira and Whitehead mines are operated by the Whitehead Coal Co., but very little work was done, and the condition of the mines was not very good.

Warner mine, operated by the Lambirth Mining Co., was found in poor condition at the beginning of the year, and I requested them to put a shaft down at the face of the workings, and on top of the hill, and this has been done. The mine has worked very little during the year.

Cambria mine, operated by the United Collieries Co., was found in a good condition at the time of my visits, but little work was done during the year owing to the depression in the coal business.

Kearney mine, operated by Joseph Thropp, has worked very little during the year, and the condition of the mine was not very good. They commenced to put up a fan soon after my last visit, and when this is running, the mine will be all right.

Cumberland mine, operated by the H. & B. T. R. R. Co., was found in a good condition during the year, although they are still troubled with a very bad roof, and this needs much care and attention from the miners and mine boss.

Crescent and Chevington mines, operated by the Crescent Coal Co., were found in very fair condition during the year as regards ventilation. They have not developed the mine very much owing to poor coal trade.

The roof in the Chevington mine is still very poor and the men have to exercise great care in working their places.

Porter shaft, operated by H. C. Porter & Co., has done very little during the year and most of the work was confined to taking out pillars. The ventilation of the mine was fair.

Bradley mine, operated by Bradley and Meagher, was found in fair condition during the year. They have opened up quite a deal of work but it is on the old single heading plan.

Lemon mine, operated by the East End Coal Co., has worked very well during the year, and the condition of the mine was very fair.

A shaft was put down at the face of No. 8 heading, and this has improved the ventilation.

East End mine, operated by the East End Coal Co., was found in a very fair condition during the year. The airway leading from the fan into the mines was through the old Bradley workings, and a great deal of air was lost by leakage, and during the autumn this air way caved in, and now they have sunk a shaft and moved the fan and I anticipate that the condition of the mine will be much improved as the new airway is in the solid, and there will not be much leakage in the air current.

Delaney mine, operated by the Altoona Coal & Coke Co., was found in good condition taken as a whole, for the works are scattered very much.

In No. 1 mine they are pushing the headings in the lower part of the mine, and also trying to get at a large body of coal to the right of the slope. In No. 3 mine they are still working back of the fault with very good prospects of reaching the workings to the right of the slope. The new mine has not turned out very promisingly yet, for the first pair of entries turned off, ran into the roll that cuts off No. 3 workings. The Horseshoe mine of the same company is also still struggling with rolls and dips, and they have made little progress the last year. The condition of the mine was good.

Glen White mine, operated by the Glen White Coal Co., was found in good condition the past year. They have lengthened the rope haulage and are still pushing down the slope, but are much troubled with clay veins and bad top.

Dougherty mine has worked fairly well, and the condition of the mine was very fair. They have done very little toward developing the upper vein, but are doing all the work in the lower one.

TABLE No. 1.—Showing location, &c., of collieries in the Tenth Bituminous Mine District.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Postoffice Address.
Blands	Fred Bland	Cambria,	Fred. Bland.	Figart.
Bradleys	Bradley & Meagher.	Blair,	Thomas Bradley.	Gallitzen.
Bloomington Nos. 1, 2, & 3	Bloomington Mining Co.,	Clearfield	Alex. Dunsmore.	Glen Richey.
Benedict	W W Reed	Huntingdon,	W. W. Reed.	Lindley
Cato	Kelly & Nugent,	Centre,	L. Nugent.	Clarence.
Carbon	W. H. Sweet	Huntingdon,	W. H. Sweet.	Saxton
Cambria Nos. 1, 2 and 3	United Collieries Co.,	Bedford,	James Denithorne.	Huntingdon.
Careytown	Lehigh Valley Coal Co.,	Centre,	J. F. Marsteller,	Snow Shoe
Cherry Run	Snow Shoe Mining Co.,	Centre,	W. A. Holt,	Philipsburg
Cumberland	H. & E. T. M. & R. R. Co.,	Bedford,	John Langdon,	Hopewell
Crescent	Crescent Coal Mining Co.,	Bedford,	John Langdon,	Hopewell.
Chevington	Crescent Coal Mining Co.,	Bedford,	John Langdon,	Hopewell
Cunard	Morrisdale Coal Co.,	Bedford,	F. A. Cheney,	Six Mile Run.
Delaney	Altoona Coal and Coke Co.	Cambria,	John Munro.	Coupon.
Delta	Delta Coal Mining Co.,	Bedford,	W. H. Sweet.	Saxton.
Douglas slope	Allen Somerville	Clearfield,	Allen Somerville.	Winburne.
Dougherty	Dougherty Coal Co.,	Cambria	John H. Dougherty.	Altoona.
East End	East End Coal Co.,	Blair,	J. King Henry.	Bennington.
Eagle	John Given & Son.	Cambria,	Luther Givin.	Mountaindale
Eldorado	Mountaindale Collieries Co.	Cambria,	F. H. Seeley.	Altoona.
Elmira	Whitehead Mining Co.,	Bedford,	John Whitehead.	Huntingdon
Eureka	Chamberlin Bros.	Bedford	W Chamberlin.	Six Mile Run.
Forest Nos. 1 and 2	O. P. Jones & Co.,	Clearfield,	John Hooten.	Munson
Fisher	E. E. Eichelberger & Co.,	Huntingdon,	John Griffith.	Broad Top City
Fricks	Max Frick	Cambria,	Max Frick.	Figart
Grass Flat	Clearfield Bituminous Coal Corporation.	Clearfield,	R. A. Shillingford,	Peale.
Gazzam Nos. 1 2 and 3	Clearfield Bituminous Coal Corporation.	Clearfield,	R. A. Shillingford,	Peale.
Glen White	Glen White Coal Co.,	Blair	Val Eichenlaub.	Glen White.
Great Bend	Bellwood Coal Co.,	Cambria,	W. S. Bell.	Bellwood
Glenwood Nos. 1, 2 and 3	Glenwood Coal Co.,	Indiana,	Arthur Riddle.	Glen Campbell
Horseshoe	Altoona Coal and Coke Co.	Blair,	John Munro	Coupon
Harvey slope	Harvey Mining Co.,	Bedford	L. B. Shaw.	Six Mile Run
Harts	Thomas Hart.	Clearfield,	Thomas Hart.	Munson.
Huntingdon Nos. 1 and 2	W. H. Sweet	Huntingdon,	W H Sweet.	Saxton.
Hickes	A. E. & G. H. Hicks,	Huntingdon	A. E. Hickes.	Coalmont
Ivona Nos. 1 and 2	Ivona Coal Co.,	Clearfield	Archie Bathgate.	Curtin
Kecks	Keck Coal Co.,	Clearfield,	L. S. Overley.	Woodland
Kearney	Joseph Throop.	Bedford	T. A. Jones.	Kearney.
Kellys	Kelly Bros	Centre	M. D. Kelly.	Snow Shoe.
Knox Run	Clearfield Bituminous Coal Corporation.	Clearfield,	R. A. Shillingford.	Peale
Kyler	R. G. Fishburn	Clearfield,	R. G. Fishburn.	Munson
Lemon	East End Coal Co	Blair	J. King Henry.	Bennington

Table No. 1.—Continued.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Postoffice Address.
Mountaindale,	Bear Ridge Coal and Coke Co.,	Cambria.	John Cree,	Glasgow.
Meravian,	Clearfield Bituminous Coal Corporation.	Clearfield.	R. A. Shillingford.	Peale.
Mt. Equity,	Kemble Iron Co.,	Bedford.	William Lauder.	Riddlesburg.
National,	Philadelphia Coal and Coke Co.,	Clearfield.	W. H. Helman.	Irvona.
New Hampshire,	Davis Coal Co.,	Bedford.	Joseph Virgin,	Six Mile Run.
O'Shanter,	Weaver & Ettla,	Clearfield.	Hugh Dick.	O'Shanter.
Oakland,	Hegarty Bros.,	Clearfield.	W. Hegarty,	Coalport.
Ocean Nos. 1 and 2,	W. H. Sweet,	Huntingdon.	W. H. Sweet,	Saxton.
Penn,	Reakirt Bros. & Co.,	Indiana.	W. J. Trevesick.	Glen Campbell.
Pleasant Hill,	Clearfield Bituminous Coal Corporation.	Clearfield.	R. A. Shillingford.	Peale.
Porter shaft,	H. C. Porter & Co.,	Blair.	H. C. Porter,	Hollidaysburg.
Royal slope,	O. P. Jones & Co.,	Clearfield.	John Morris,	Munson.
Robertsdale,	Rockhill Iron Co.,	Huntingdon.	F. F. Lyon,	Robertsdale.
Somerville Nos. 1 and 2.	Somerville & Buchanan,	Clearfield.	John Somerville.	Winburn.
Sugar Camp Nos. 1, 2 & 3.	Lehigh Valley Coal Co.,	Centre.	J. F. Marsteller.	Snow Shoe.
Tunnel,	King & Boak,	Centre.	Geo. P. King,	Gorton Heights.
Urey Nos. 1, 2 and 3,	Urey Ridge Coal Co.,	Indiana.	Thomas Bellis.	Urey.
Warner,	Lambirth Mining Co.,	Bedford.	G. W. McIntyre.	Six Mile Run.
Woodvale shaft,	Rockhill Iron Co.,	Huntingdon.	F. F. Lyon.	Robertsdale.

TABLE No. 2.—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder used, etc., in the Tenth Bituminous Mine District for the year ending December 31, 1896.

Names of Collieries.	Location—County.	Total production in tons of coal.	Total production in tons of coke.	Total shipment in tons of coal	Number days worked.	Number persons employed.	Number fatal accidents.	Number non fatal accidents.	Number kegs powder used	Number steam boilers	Number horses and mules.	Number mine locomotives.	Number coke ovens.
Barnes	Cambria,	27,966		27,966	270	75			250		3		
Bradleys	Blair	6,000		6,000	280	75			75		10		
Bennington Nos. 1, 2 and 3	Clearfield	230,243		230,243	302	340			1,621		28	1	
Bennett	Huntingdon	29,500		29,500	218	60			115		4		
Cale	Centre	7,200		7,200	280	54			110		[illegible]		
Carbon	Huntingdon	9,240		9,080	256	58			22		[illegible]		
Carrona Nos. 1, 2 and 3	Bedford	21,604		21,604	296	82			50	3	15	1	
Caretown	Centre	15,255		15,209	146	34		1			2		
Cherry Run	Centre	72,057		72,057	202	80			720				
Cumberland	Bedford	40,428		40,428	113	60		1	82	2	10	1	
Crescent	Bedford	52,676		52,676	209	148			188	2	13	1	
Chevington	Bedford												
Conard	Bedford	23,766		23,766	202	80	1	1	150	3	10	2	
Delaney	Cambria	140,082		140,082	290	250		1	200	2	35	2	
Delta	Bedford	1,496		1,496	105	24			46	1	4	1	
Douglas slope	Clearfield	18,243		18,243	120	46			150	1	3	1	
Dougherty	Cambria	10,483		10,483	178	58			80				
East End	Blair	2,500	2,500	2,500	206	110			250	2	11	1	50
Eagle	Cambria												
Elderado	Cambria	28,[illegible]		28,[illegible]	200	74			254		3		
Elmira	Bedford	3,[illegible]		3,[illegible]	210	54					3		
Eureka	Bedford												
Forest Nos. 1 and 2	Clearfield	107,[illegible]		107,[illegible]	170	182			640		15		
Fisher	Huntingdon	8,[illegible]		8,[illegible]	146	72			75		4		
Estes	Cambria	20,[illegible]		20,[illegible]	180	72			80		4		

Table No. 2.—Continued.

Names of Collieries.	Location—County.	Total production in tons of coal.	Total production in tons of coke.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.	Number coke ovens.
Grass Flat,	Clearfield,	131,301	43,495	81,798	288	198	1	1	.....	3	10	2	100
Gazzam Nos. 1, 2 and 3,	Clearfield,	155,084	.....	153,786	270	272	.....	3	1,754	2	15	3	.....
Glen White,	Blair,	64,098	22,152	26,796	200	105	.....	.....	350	4	10	1	100
Great Bend,	Cambria,	16,550	.....	16,550	235	37	.....	.....	.....	.....	3	.....	.....
Glenwood Nos. 1, 2 and 3,	Indiana,	144,705	.....	144,277	148	264	.....	.....	825	.....	20	.....	.....
Horseshoe,	Blair,	13,455	.....	13,401	260	45	.....	.....	.....	.....	2	.....	.....
Harvey slope,	Bedford,	14,573	.....	14,073	99	82	.....	.....	.....	1	7	2	.....
Harts,	Clearfield,	1,857	.....	1,142	.....	3	.....	.....	.....	.....	1	.....	.....
Huntingdon Nos. 1 and 2,	Huntingdon,	30,339	.....	30,019	156	70	.....	.....	164	.....	6	.....	.....
Hickes,	Huntingdon,	3,000	.....	3,000	.....	11	.....	.....	.....	.....	1	.....	.....
Irvona Nos. 1 and 2,	Clearfield,	22,000	13,360	2,000	165	60	.....	.....	175	3	14	.....	79
Kecks,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kearney,	Bedford,	39,460	39,200	2,821	204	144	.....	1	135	2	10	2	140
Kellys,	Centre,	17,231	.....	17,231	151	19	.....	.....	.....	.....	2	.....	.....
Knox Run,	Clearfield,	81,309	.....	80,613	211	135	.....	.....	.....	.....	3	.....	.....
Kyler,	Clearfield,	10,527	2,363	6,751	91	23	.....	.....	65	1	2	1	50
Lemon,	Blair,	79,511	12,088	59,181	275	128	.....	.....	150	.....	18	.....	100
Mountaindale,	Cambria,	27,441	14,298	3,663	258	58	.....	.....	120	1	3	1	50
Moravian,	Clearfield,	77,432	.....	76,572	212	132	.....	.....	.....	.....	6	.....	.....
Mt. Equity,	Bedford,	55,028	.....	55,028	215	75	.....	.....	.....	.....	18	.....	.....
National,	Clearfield,	45,725	25,955	9,250	176	97	.....	.....	240	.....	10	.....	.....
New Hampshire,	Bedford,	14,098	.....	14,098	188	35	.....	.....	.....	.....	4	.....	.....
O'Shanter Nos. 1 and 2,	Clearfield,	57,000	.....	56,700	252	82	.....	.....	481	.....	8	.....	.....
Oakland,	Clearfield,	8,669	.....	8,669	197	18	.....	.....	68	.....	3	.....	.....
Ocean Nos. 1 and 2,	Huntingdon,	26,096	.....	25,971	144	62	.....	.....	148	.....	5	.....	.....
Penn,	Indiana,	44,108	.....	44,108	122	66	.....	.....	301	.....	16	.....	.....
Pleasant Hill,	Clearfield,	82,644	.....	82,057	214	141	.....	1	.....	.....	15	.....	.....
Porter shaft,	Blair,	11,013	.....	10,826	108	73	.....	.....	6	2	12	2	.....

Royal slope,	Clearfield,	65,790	.....	64,669	200	114	.....	1	375	2	10	.....	.....	
Robertsdale,	Huntingdon,	227,206	.....	214,282	213	455	.....	.....	2,450	17	59	2	.....	
Somerville Nos. 2 and 2,	Clearfield,	77,885	.....	76,750	180	180	.....	4	800	.....	18	.....	.....	
Sugar Camp Nos. 1, 2 and 3,	Centre,	120,215	.....	119,355	150	168	.....	.....	.....	.....	11	2	200	
Tunnel,	Centre,	19,100	.....	19,100	237	20	.....	.....	150	.....	6	.....	.....	
Urey Nos. 1, 2 and 3,	Indiana,	64,670	.....	64,570	80	172	.....	.....	461	.....	12	.....	.....	
Warner,	Bedford,	6,367	.....	6,367	.....	39	.....	1	28	.....	5	.....	.....	
Woodvale shaft,	Huntingdon,	.....	.....	.....	.....	.....	2	1	.....	.....	.....	.....	.....	
Total,		2,857,096	175,614	2,552,960	10,150	5,389	4	18	14,442	54	519	29	860	

TABLE No. 3.—Showing the number of each class of employes at each colliery in the Tenth Bituminous Mine District during the year 1896.

Name of Collieries	Location—County.	Number of Persons Employed Inside.							Number of Persons Employed Outside.						
		Inside foreman or mine boss.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Doorboys and helpers.	Total inside.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All company men.	Superintendents, bookkeepers and clerks.	Total outside.	Grand total—inside and outside.
Blands,	Cambria	1	23	3	1	3	1	32	.....	.....	.....	1	.....	1	33
Bradleys,	Blair	1	39	5	.....	7	2	54	1	.....	.....	.....	1	2	56
Bloomington Nos. 1, 2 and 3,	Clearfield,	2	287	18	8	13	5	333	2	1	.....	11	2	16	349
Benedict,	Huntingdon	1	39	10	5	4	1	60	1	.....	1	.....	1	3	63
Cato,	Centre	1	20	1	.....	.....	.....	22	.....	.....	.....	2	.....	2	24
Carbon,	Huntingdon	1	14	2	.....	1	.....	18	.....	.....	.....	.....	.....	.....	18
Cambria Nos. 1, 2 and 3,	Bedford	1	59	5	2	5	3	75	1	2	1	1	2	7	82
Careytown,	Centre	1	15	4	.....	1	.....	21	.....	.....	.....	.....	.....	.....	21
Cherry Run,	Centre	1	69	.....	1	4	2	77	1	.....	.....	1	1	3	80
Cumberland,	Bedford,	1	65	4	4	6	4	84	1	2	.....	5	1	9	93
Crescent,	Bedford,	1	96	16	5	13	3	134	1	2	.....	6	1	10	144
Chevington,	Bedford,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cunard,	Bedford,	1	59	5	5	7	.....	77	2	2	1	5	2	12	89
Delaney,	Cambria,	1	169	15	10	20	5	220	3	2	.....	3	2	10	230
Delta,	Bedford	1	16	3	.....	2	.....	22	1	.....	.....	.....	1	2	24
Douglas slope,	Clearfield,	1	29	4	1	2	.....	37	1	.....	.....	1	1	3	40
Dougherty,	Cambria,	1	13	.....	2	.....	.....	16	.....	.....	.....	1	1	2	18
East End,	Blair,	1	84	10	8	7	.....	110	2	2	.....	.....	2	6	16
Eagle,	Cambria,	1	43	2	.....	3	.....	49	.....	.....	.....	.....	.....	.....	.....
Eldorado,	Cambria,	.....	.....	.....	.....	.....	.....	.....	1	.....	1	1	2	5	54
Elmira,	Bedford,	1	16	2	.....	2	.....	21	1	.....	.....	.....	2	3	24
Eureka,	Bedford,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Forest Nos. 1 and 2	Clearfield	1	150	15	2	6	1	175	.....	.....	2	3	2	7	182

Fisher,	Huntingdon	1	17	1	.....	2	.....	21	.....	.....	.....	.....	1	1	22
Fricks,	Cambria,	1	28	1	2	1	.....	33	1	.....	1	.....	.....	1	35
Grass Flat,	Clearfield	1	130	28	7	11	4	181	2	3	.....	9	3	17	198
Gazzam Nos. 1, 2 and 3,	Clearfield	2	208	8	9	13	7	247	4	3	.....	16	2	25	272
Glen White,	Blair,	1	70	8	3	7	3	92	2	3	.....	8	5	18	205
Great Bend,	Cambria,	1	30	.....	2	2	.....	35	1	.....	1	.....	.....	2	37
Ironwood Nos. 1, 2 and 3,	Indiana	2	197	32	4	11	3	249	3	1	1	6	4	15	264
Horseshoe,	Blair,	1	33	.....	3	2	1	40	1	.....	1	2	1	5	45
Harvey slope,	Bedford	1	63	.....	8	6	1	79	1	1	.....	.....	1	3	82
Harts	Clearfield	.....	2	1	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	3
Huntingdon Nos. 1 and 2	Huntingdon	1	50	9	.....	6	.....	66	1	.....	.....	2	1	4	70
Hickes,	Huntingdon	.....	8	1	.....	.....	.....	9	.....	.....	.....	.....	2	2	11
Irvona Nos. 1 and 2,	Clearfield	1	29	4	1	4	.....	39	1	2	.....	17	1	21	60
Kerks	Clearfield	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kearney,	Bedford,	1	79	6	2	9	.....	97	1	1	.....	43	2	47	144
Kellys,	Centre	1	11	4	2	.....	.....	18	.....	.....	.....	.....	1	1	19
Knox Run,	Clearfield	1	119	.....	1	3	4	128	1	.....	.....	6	.....	7	135
Kyler,	Clearfield,	1	16	3	.....	1	.....	21	.....	.....	.....	2	.....	2	23
Lemon,	Blair	1	89	15	7	10	2	124	2	.....	.....	1	1	4	128
Mountaindale,	Cambria,	1	36	.....	.....	2	1	40	1	1	.....	15	1	18	58
Moravian,	Clearfield	1	111	2	3	6	3	126	1	.....	.....	5	.....	6	132
Mt. Equity,	Bedford,	1	39	7	8	10	3	68	2	.....	2	3	.....	7	75
National,	Clearfield	1	69	8	2	4	2	86	2	.....	1	6	2	11	97
New Hampshire,	Bedford,	1	28	.....	1	3	.....	33	.....	.....	.....	1	1	2	35
O'Shanter,	Clearfield	1	61	10	1	3	1	77	1	.....	.....	2	2	5	82
Oakland,	Clearfield	1	11	2	1	1	.....	16	1	.....	.....	.....	1	2	18
Ocean Nos. 1 and 2	Huntingdon	1	43	7	2	5	.....	58	2	.....	.....	1	1	4	62
Penn	Indiana	1	49	4	1	7	.....	62	1	.....	.....	2	1	4	66
Pleasant Hill,	Clearfield,	1	121	5	2	4	2	135	1	.....	.....	5	.....	6	141
Porter shaft,	Blair	1	35	9	6	9	2	62	2	2	.....	7	.....	11	73
Rocal slope,	Clearfield	1	89	8	4	4	.....	106	1	2	2	2	1	8	114
Robertsdale,	Huntingdon	2	346	18	17	30	8	421	5	7	3	17	4	34	455
Somerville Nos. 1 and 2,	Clearfield	1	139	20	3	6	1	170	1	1	1	5	2	10	180
Sugar Camp Nos. 1, 2 and 3	Centre	1	123	11	8	5	2	150	4	2	1	8	3	18	168
Tunnel,	Centre,	1	24	.....	.....	1	.....	26	.....	.....	.....	.....	1	3	29
Urey Nos. 1, 2 and 3,	Indiana	2	139	3	1	1 2	3	160	1	.....	2	6	3	12	172
Warner,	Bedford	1	26	2	4	4	1	38	1	.....	.....	.....	.....	1	39
Woodvale shaft *	Huntingdon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,		59	3,973	361	169	340	81	4,983	67	42	22	230	72	433	5,416

*Woodvale [illegible] Robertsdale mine.

TABLE No. 4.—List of fatal accidents that occurred in and about the mines of the Tenth Bituminous Mine District, for the year ending December 31, 1896.

Date of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of children.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 16,	Joseph Peters	Miner boy.	13	....	....	Woodvale.	Huntingdon.	Fatally burned by the explosion of a keg of powder. The boy worked with his father in a room and had gone into the room adjoining immediately after a shot had been fired, and after examining the effects of the shot, he had started back alongside the rib of the room and in some unknown manner must have ignited the keg of powder, which exploded. The miners' opinion was that the boy unthinkingly put his lamp to some grains of powder that were spilled, and this ignited the powder in the keg.

Z—1

Feb. 21,	James Corbin, ...	Laborer	[illegible]	M	4	Woodvale, ...	[illegible]	[illegible]
June 12,	John Nolen, ...	Miner, ...	45	W.	5	Cunard	Gilford	Fatally injured by being caught between the cage and side of the shaft. Persons are not allowed to ride up or down the shaft, but on this day Nolen and his companion brought a car to the foot of the shaft, after the regular time for ceasing work and pushed the car on to the cage, and did not fix the stops for holding the car in place. They both climbed on top of the car and signalled to the engineer to hoist, and he did so, and as soon as the cage left the bottom of the shaft, the car ran back out of the cage, and caught Nolan between the car and the side of the shaft, and he was injured so severely that he died the same night.

[illegible] was working at the bottom of the shaft. On inquiring into this accident it was found that Corbin was one of the oldest hands employed at this shaft, having been employed there since it was sunk, and having worked as cager for a long time. On the morning in question the mine boss was giving him some instructions in regard to his work, and the mine boss turned away toward the east side of the workings and Corbin toward the west side, and instead of going round the shaft by the travelling way he attempted to walk across under the cages, and must have made a mistake in thinking that the cage was further up the shaft than it really was, but before he could get across he was caught under it.

Table 4.—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of children.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
June 29.	John Hetherill.	Boss driver.	30	S.	....	Grass Flat	Clearfield.	Killed by falling between trip of loaded cars. Hetherill was boss driver, and it was his practice after telling the drivers when to go with their trips, to take a mule and make a trip on one of the short runs himself, and he would get back to the tunnel before the other drivers returned. From the evidence gleaned from the employes it appeared that he was coming out of the heading at a good rate of speed and in going around the curve on to the main heading he must have slipped off the bumpers between the second and third cars, and was dragged along under the cars for thirty feet before the trip came to a standstill. His back and several ribs were broken; he also was injured internally. He lived two hours

Table No. 5.—List of non-fatal accidents that occurred in and about the mines of the Tenth Bituminous Mine District, for the year ending December 31, 1896.

Date of accident.	Name of Person.	Occupation.	Age.	Widow.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 13.	William Yocum,	Miner,	34	....	Gazzam No. 1,	Clearfield,	Both collar bones broken, also one rib and a thumb by a fall of coal.
16.	William Rumgay,	Miner,	....	M.	Grass Flat,	Clearfield,	Injured by afall of top and bone coal.
24.	Frank Anderson,	Miner,	36	S.	Gazzam No. 1,	Clearfield,	Fell from a loaded trip, and was squeezed very severely between the cars and the rib, was injured in lower part of the body and also internally.
Feb. 1.	Frank Gustafson,	Driver,	24	S.	Summerville,	Clearfield,	Leg broken by being caught between first and second cars of his trip, which jumped the track in coming down a grade.
7.	Gottlieb Laich,	Shifter,	....	....	Summerville,	Clearfield,	Hand mashed while trying to couple railroad cars under the chute.
8.	Joseph Lowden,	Miner,	....	....	Kearney,	Bedford,	Collar bone broken and head cut by a fall of coal.
Mch. 11.	John Griffin,	Driver,	20	S.	Pleasant Hill,	Clearfield,	Both legs and left arm broken by falling in front of his loaded trip while endeavoring to unhitch the mule.
17.	Albert Lenning,	Miner,	45	M.	Woodvale,	Huntingdon,	Rib broken. He was in the act of lifting a large lump of coal on to his car when his foot slipped, and the lump of coal fell on him, breaking his rib.
April 11.	Samuel Worthman,	Roadman,	42	....	Summerville,	Bedford,	Leg broken by being squeezed between a mine car and rib.
June 12.	James McKnight,	Miner,	....	M.	Cunard,	Clearfield,	Squeezed between loaded car and the side of shaft.
24.	Calvin Winters,	Miner,	....	....	Warner,	Bedford,	Hand severely cut by an axe.

Table No. 5.—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Widow.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Aug. 8,	Mike Beharia,	Miner,	31	....	Royal,	Clearfield,	Injured by a fall of bone coal from a slip while he was undermining.
Sept. 4,	Frank Sevat,	Miner,	....	S.	Summerville,	Clearfield,	Leg broken by a fall of slate.
Oct. 12,	Joseph Judd,	Miner,	50	M.	Delaney,	Cambria,	Left leg badly bruised by a fall of coal.
	Guy Currie,	Door boy,	13	....	Gazzam No. 1,	Clearfield,	Compound fracture of the small bones of his foot. He was running alongside the loaded trip and his foot slipped under the car with the above result.
20,	Charles Fleming,	Miner,	....	....	Careytown,	Centre,	Wrist broken by being caught between a loaded car and prop.
28,	George C. Hawksworth,	Miner,	34	....	Cumberland,	Bedford,	Ankle broken by a fall of coal and ripping.
Dec. 2,	Amador Sarton,	Miner,	30	S.	Delaney,	Cambria,	Collar bone broken and left shoulder badly bruised by a fall of coal.

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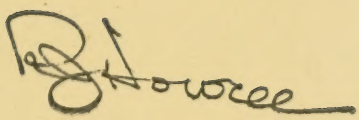
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